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Lessons from ERP Implementation Failures

Michael Krigsman | June 10, 2010

Issue

ERP implementation failures inflict a great deal of pain on organizations. Whether it's implementation cost overruns, software that doesn't support the business, or lack of employee acceptance, ERP failures entail very negative consequences. So why do over 65% of enterprise software implementations fail?

Analysis

Our experience helping clients clean up projects they or their software vendors have failed to manage, along with our expert witness support to ERP lawsuits, has taught us quite a bit about the reasons for ERP failure. Below are five trends we see in most troubled enterprise software implementations:

1. **Lack of software fit.** The first stumbling block for many failed implementations is a severe misalignment between software functionality and business needs. There are hundreds of enterprise software options in the marketplace, so it is important to navigate carefully and find the product with the right fit. Too many failed implementations neglected to engage in an effective ERP software selection process.
2. **Unrealistic implementation expectations.** Enterprise software sales reps often understate the level of resources required to make the implementation successful, so many companies fail to budget adequate time, money, resources, and external consulting support to make the project successful. In addition, failed implementations often neglect to include key activities in their implementation project plan, such as organizational change management, business process and workflow definition, and thorough conference room pilots.
3. **Lack of executive buy-in and support.** Executive buy-in involves more than signing the checks and delegating the implementation to a project team. It involves defining clear implementation objectives, establishing project governance, and making tough decisions when needed. This is arguably the most important, because it directly affects the other four failure points.
4. **Propensity to customize software rather than leverage standard functionality.** Nearly every failed implementation I have seen suffers from this problem, and it is often because of a failure to select the right software in the first place (see #1 above). The more you customize the software, the longer it's going to take to implement, the more it's going to cost, and the more risk you introduce into the project. It's typically not realistic to completely abstain from customization, but changes to the software should be devoted only to key areas of competitive advantage or differentiators. If you aren't able to limit customization to those areas, then you should either find another ERP software solution or back up and rethink your strategy.
5. **Lack of ERP implementation expertise.** Implementations are tough and a team with tested battle wounds is going to dramatically increase your likelihood of success. As we often tell our clients, the fastest and cheapest way to implement enterprise software is to do it right the first time. Failed implementations are more likely to have inexperienced team members who don't know enough to know what they don't know.

Conclusion

If you see one or more of these patterns emerging during your implementation, then you are putting your organization at severe risk. On the other hand, If your implementation project team is able to avoid these five common pitfalls, you will be well on your way to a successful ERP implementation.

Recommended Reading

- 25 ERP Experts, Blogs, and Influencers to Track in 2010
- What is ERP in 2010?
- ERP for Manufacturing: Considerations and Recommendations

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The 2011 Focus Experts' Guide to Enterprise Resource Planning

Focus Research
December 2010

Lead Expert:
Michael Krigsman

Contributing Experts:
Michael Fauscette
Eric Kimberling
Phil Simon
Brian Sommer

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Section 1: Introduction

In this Guide, you will find a wealth of insight, analysis and information intended to help you understand and select an Enterprise Resource Planning (ERP) system. Despite being a backbone enterprise application, ERP is often misunderstood. This Guide demystifies ERP so you can make an informed buying decision. The contributors to this Guide are all top experts, so you can have confidence in their suggestions and recommendations. The audience for this Guide consists primarily of small and midsize enterprises. While core ERP principles hold true regardless of company size, large organizations and government agencies have distinct needs from those of smaller companies.

When evaluating ERP, small to midsize organizations should look for ease of use and simplicity of implementation. Check Vendor Considerations on page 18 as a starting point in your search. Even though small companies may have complex requirements, often there is insufficient budget or human resources available to devote the required effort to maintaining IT infrastructure. Therefore, Web-based, Software as a Service (SaaS) products are worth serious consideration.

Midsize organizations have a broad set of choices when buying ERP. Companies in that range should take care to match their needs with specific vendor strengths. For example, an international manufacturer of discrete products should not buy an ERP system intended strictly for domestic process manufacturers. Most ERP vendors have particular strengths and weaknesses about which buyers should be aware.

Larger organizations demand a high level of flexibility from enterprise systems such as ERP. These demands can translate into higher cost, a more involved software selection process and longer implementation times.

Here's what follows:

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Section 2: Meet the Experts

The analysis and recommendations in this Guide are based upon the opinions and experience of a group of Experts selected from the Focus Expert Network. More than 5,000 business experts contribute questions, answers, Focus Briefs and other content to Focus.com, expertise freely available to all. More information about the Focus Expert Network is available at www.focus.com. Below are brief biographies of the Focus Experts who contributed to this Guide.

Lead Expert: Michael Krigsman

Michael Krigsman is CEO of Asuret, Inc. and is one of the most recognized authorities on the causes and prevention of IT failures. Michael has dedicated his career to finding ways to reduce IT failures in the enterprise. He headed the research effort that lead to Asuret's suite of software tools designed to improve the success rate of enterprise software deployments. Michael writes the popular blog IT Project Failures for ZDNet, and writes thought leadership reports for IDC.

Contributing Expert: Michael Fauscette

Michael Fauscette is the head of IDC's Software Business Solutions Group and the author of one of the top software analyst blogs on the Internet today. Through the course of his career, he has held several senior consulting roles and has extensive executive experience with software vendors across a wide range of companies. Michael provides a business process and end user-focused approach to his research and analysis, and is a published author, blogger and an accomplished public speaker.

Contributing Expert: Eric Kimberling

Eric Kimberling is the president of the Panorama Consulting Group, a consulting firm that truly understands all aspects of ERP. He began his career as an ERP organizational change management consultant, and worked to broaden his background to include implementation project management and software selection. Eric has helped dozens of high-profile companies with successful ERP implementations, business process re-engineering, merger and acquisition integrations, strategic planning and Six Sigma. Eric holds an MBA from Daniels College of Business at the University of Denver.

Contributing Expert: Phil Simon

Phil Simon is an independent technology consultant, author, blogger and dynamic public speaker. Phil focuses on the intersection of business and technology and has written two successful books: Why New Systems Fail and The Next Wave of Technologies. His newest book, The New Small, was released in November 2010. Phil often contributes to a number of technology media outlets and hosts the podcast Technology Today.

Contributing Expert: Brian Sommer

Brian Sommer founded TechVentive, Inc. to help technology firms win more, win better and win conclusively in the marketplace. Brian's background includes a unique mix of high-level technology expertise, thousands of hours working with top executives of Fortune 500 firms, and a rock-solid marketing background. Brian closely follows what C-level executives think, feel and need. He has extensive files on the psychographics, motivations, likes/dislikes of executives globally. Brian has brokered alliances, trained sales teams and orchestrated massive marketing events. Brian is also a prolific writer and has penned numerous articles in major business and technology magazines. He produces two blogs, including Software & Services Safari on ZDNet, and has written a manuscript about the ERP market.

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Section 3: Essentials

The term Enterprise Resource Planning (ERP) represents a broad category of enterprise business management software that ranges from financial management to operations management. ERP evolved from Manufacturing Resource Planning (MRP), an older category of software used to manage manufacturing planning and execution. As companies looked to automate more of their business processes and as software vendors looked for ways to expand their offerings, vendors designed software to manage business processes outside of manufacturing. Rather than build and deploy the new software products disconnected from business processes, companies desired to connect the software and share data from one part of the business with the others. ERP grew out of that need.

The term ERP is a bit nebulous, and the specific modules contained in a system vary quite a bit, both from vendor offerings and in the actual deployment at each company. For the sake of this Guide, consider the following types of software as components of an ERP system:

- Financial Management
- Human Capital Management (HCM)
- Project Management
- Manufacturing
- Service Operations Management (SOM)
- Supply Chain Management (SCM)

At times you will see Customer Relationship Management (CRM) described as a part of an ERP system. Although it is not uncommon to see CRM and ERP deployed and integrated in the same company, and many of the vendors included in this Guide also offer CRM, CRM is not included in this Experts' Guide.

Top Reasons to Buy ERP

Organizations that purchase ERP systems are typically interested in achieving several broad benefits:

- Transforming parts (or all) of the business to improve efficiency, time to market, communication and other process-related goals
- Increasing visibility and transparency into operations and finances
- Improving coordination and information sharing across different parts of the organization

Beyond these general goals, every ERP customer should have specific objectives in mind. These objectives will typically relate to the concrete business problems the organization plans for ERP to address. For a manufacturing company, these goals might involve reducing inventory, increasing manufacturing profitability and so forth. In contrast, a professional services firm might buy ERP to improve resource utilization and profitability. Given the flexibility and adaptability of ERP to many business environments, every ERP customer will have specific requirements and goals for its ERP system.

Understanding the ERP Buying Process

ERP defines the concept of "enterprise application," meaning implementation involves coordinating across multiple functions and departments in the organization. ERP purchase and implementation therefore requires representatives from different departments to work together in order to ensure that every part of the company benefits from the ERP system. This coordination takes place on a technical level, to create consistent and centrally managed data, and on a process level, to ensure that functional departments operate efficiently.

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These integration requirements mean that buying and implementing ERP can be a relatively complicated undertaking involving partnership between the buyer, software vendor and system integrator (or consultants) possessing specialized expertise in ERP systems.

ERP deployment generally involves several phases:

- Choosing software (including modules you want to implement) that is appropriate to your specific business needs, vertical industry and company size
- Selecting a consultant or system integrator to assist with implementation. Because ERP implementation involves specialized skills that few small- or midsize businesses have in-house, external consultants almost always necessary.
- Implementation, which involves technical deployment, system configuration and business process transformation to improve company operations
- Taking the system live following implementation and moving over from the old system
- Improving and upgrading the new system over time

The success of an ERP deployment depends on all these steps. It is a fallacy to think that success is possible while taking shortcuts in any of these areas.

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Section 4: The Market

ERP is an important part of today's modern business environment. Although specific numbers are hard to determine, there is no question that a significant percentage of world financial transactions touch an ERP system in one way or another.

As the following table indicates, the ERP market is large and significant. When this Guide refers to the ERP market, we mean money spent for the software, but not implementation services:

Table 1. ERP Market Size (millions)

2009	$33,495
2010	$34,596
2011	$36,235

As a consequence of the broad functional coverage that ERP software has inside the enterprise, the market is diverse and highly segmented. For example, some vendors focus on small companies, while others offer packages tailored to meet the needs of large, global multinationals and enormous government agencies. Because the ERP market is also mature, having started almost 30 years ago, many vendors have developed software modules adapted specifically to narrow vertical industries.

Despite this diversity, ERP buyers in 2010 and 2011 should be aware of several broad market conditions and trends. Understanding these changes can help you choose a system wisely, based on your own needs but also on directions that vendors may take in the future. These key factors include:

- Impact of the 2009 recession
- Cloud computing, SaaS and licensing
- Mobile devices and social computing

Post-2009 Recession and the Impact on Enterprise Software

The recent economic downturn has had a far-reaching impact on business. From a technology standpoint, several emerging trends accelerated and gained significant momentum. Companies prioritized IT budgets to focus on faster time-to-value and for projects that had a high potential to increase revenue and margin. For enterprises that already had an ERP system, this change meant that companies often moved IT budgets to industry-vertical solutions (such as merchandising for retail), add on customer-facing functionality (such as CRM or adding social solutions to existing CRM systems), and key ERP modules (such as financial modules for global consolidations or business analytics to support executive decision making). For mid-market companies (at least for companies lacking a complete and integrated ERP system), the investment that was most critical seems to have been investing in a full-featured, integrated system.

Another fallout from the recession, particularly resulting from the banking crisis, was the lack of investment capital. This reality changed companies' desire to spend capital budget and also made financing much more difficult. It also helped accelerate a shift in IT toward buying technology on a subscription basis, instead of the more traditional and prevalent model of perpetual licensing. Subscription pricing is the prevailing model for cloud vendors, and this change in buying behavior helped drive the adoption of Software as a Service (SaaS) and other "as a service" offerings. In response, many traditional software vendors now sell on-premise or hosted software on a subscription basis to accommodate customer needs.

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New License Models, New Deployment Models

When looking at ERP software, it is useful to understand a few terms associated with licensing and deployment models. For licensing, software generally falls into two categories, perpetual license and subscription license. Perpetual licensing is, in effect, "buying" the software: The title changes hands and the expenditure is treated as a capital investment (CAPEX). Subscription licensing is "leasing": The software and the expenditure are treated as operating funds (OPEX). The payment model for subscription varies quite a bit and ranges from a monthly payment to three-plus years' payment up front (often exchanging the longer commitment period for more favorable pricing).

Deployment models offer enterprise buyers a great deal of flexibility and choice. Traditionally, software was most often deployed on a company's premises, in a company data center and on company-owned and company-maintained hardware, databases, middleware and so forth. In the past decade or so, hosting software (or deploying software on demand) has gained some popularity. For hosted/on-demand software, the company deploys the software on "rented" infrastructure, generally from a third-party hosting provider (although some software vendors also offer this option in their own data centers). This model is sometimes confused with SaaS, but the key difference is that the software transaction and the infrastructure transaction are separate (although they may be bundled together by the vendor), and the licensing model can be either subscription or perpetual for the software. There is also an architectural model that is used for SaaS offerings — called multi-tenant — that allows the vendor to segment one instance of the software running on one server into multiple company organizations. The SaaS deployment model provides the software and the supporting infrastructure (which is invisible to the consumer) in a single subscription (there is no perpetual license model for SaaS).

It's a Hybrid IT World

It has become increasingly popular to buy, deploy and integrate software in more than one licensing and deployment model. This is partially driven by the fact that many companies have legacy software that is in a perpetual model and deployed on premises or at a hosting facility, but want to add new products that are in the SaaS model. There are also other drivers to this hybrid IT model, including legal obligations regarding the storage and protection of sensitive data; business needs for certain systems to be completely under the companies control; intellectual property protection concerns, and so forth. All of these are contributing factors in the growth of mixed, or hybrid, IT shops.

Three other significant trends are creating change in the ERP software market and generating new features, as well as additional new software solutions that expand the reach of ERP. Those trends — enterprise mobility, the need to add social Web capabilities to the enterprise, and the desire for deeper understanding of business information through Business Intelligence (BI) — are increasingly important in our hyper-connected global business environment. Employees are demanding mobile access to more and more ERP resources as smartphones proliferate through the work force and traditional work patterns are disrupted. The social Web has created new ways of interacting, collaborating, and creating and using information in the post-industrial, information economy. Employees, suppliers, partners and customers are expecting businesses to interact in these new ways, as content and community through the social Web become business tools. ERP systems will have to offer and support social collaboration, to provide new ways of generating value, to focus on networks over organizations, and to offer new ways of engaging customers and new ways of innovating around products and services.

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All of these trends — mobile, social, and cloud — are contributing to a data explosion. Businesses must make sense of this data, including newly available data from the social Web, and use the information to make better business decisions. BI tools, once disconnected from the core ERP systems, will have to be embedded into ERP systems and be able to interpret data in context for employees.

The ERP Vendor Landscape

The following table includes major ERP vendors and the core modules they offer. These six modules — Financial Management, Human Resources Management, Project Management, Manufacturing, Service Operations Management and Supply Chain Management — are among the most important components of most ERP systems. When choosing an ERP provider, be sure the vendor offers the modules you require. For example, a manufacturer should buy only ERP software that supports companies in the manufacturing domain.

VENDOR	ERP OFFERINGS					
	FINANCIAL MANAGEMENT	HUMAN RESOURCES MANAGEMENT	PROJECT MANAGEMENT	MANUFACTURING	SERVICE OPERATIONS MANAGEMENT	SUPPLY CHAIN MANAGEMENT
Consona	X	X	X	X	O	X
Deltek	X	X	X	O	X	X (services only)
Epicor	X	X	X	X	X	X
Infor	X	X	X	X	X	X
Lawson	X	X	X	X	X	X
Microsoft	X	X	X	X	X	X
Netsuite	X	X	X	X	X	X
OpenTaps	X	X	X	X	O	X
Oracle	X	X	X	X	X	X
Plex	X	X	X	X	O	X
QAD	X	X	X	X	O	X
Sage	X	X	X	X	X	X
SAP	X	X	X	X	X	X
Syspro	X	X	X	X	O	X
TOTVS	X	X	X	X	X	X
Unit4	X	X	X	X	X	X (services only)
Workday	X	X	X	O	(future)	O

KEY

X = have this capability

P = partial capability but not core focus

O = do not have this capability/not a focus area

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Most ERP vendors deliver software that buyers install in their own data center. On-premise licensing terms can be complicated, but most buyers purchase the perpetual right to use the software. Support and maintenance fees are additional cost items often negotiated as part of the original software purchase. This form of software deployment remains most common.

Today, buyers today must consider both on-premise and SaaS solutions, in addition to subscription licensing as an option. These options provide buyers with great flexibility, but also add confusion and make the buying decision more complicated. In general, small organizations should consider SaaS solutions; however, as Internet-based offerings mature over time, SaaS is becoming a viable alternative even for larger companies.

The following table compares deployment and licensing options offered by major ERP vendors.

VENDOR	COMPANY SIZE		DEPLOYMENT MODEL			LICENSE MODEL	
	ENTERPRISE (REVENUE >$1B)	MID-MARKET (REVENUE >$99M-$999M)	ON PREMISE	ON DEMAND/ HOSTED	SAAS	PERPETUAL	SUBSCRIPTION
Consona	O	X	X	X	O	X	O
Deltek	P	X	X	X	(minimal offerings)	X	(for SaaS)
Epicor	P (division solution)	X	X	X	X	X	X
Infor	P	X	X	X	X	X	X
Lawson	P	X	X	X	O	X	X
Microsoft	P	X	X	X	O	X	X
Netsuite	P	X	O	O	X	O	X
OpenTaps	P	X	X	X	O	P (open source)	X
Oracle	X	X	X	X	X	X	X
Plex	O	X	O	O	X	O	X
QAD	P	X	X	X	O	X	O
Sage	O	X	X	X	O	X	X
SAP	X	X	X	X	X	X	X
Syspro	O	X	X	X	O	X	O
TOTVS	X	X	X	X	X	X	X
Unit4	P	X	X	X	O	X	X
Workday	X	X	O	O	X	O	X

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When choosing ERP software, select a vendor with functional capabilities that match your business. The following table show major ERP vendors and indicates which vertical industries each serves.

VENDOR	VERTICAL												
	MANUFACTURING	FINANCIAL SERVICES	PUBLIC SECTOR/EDUCATION	RETAIL/ WHOLESALE	MEDIA & ENTERTAINMENT	COMMUNICATIONS	TRANSPORTATION	UTILITIES	HEALTHCARE	SERVICES	CONSTRUCTION	RESOURCE INDUSTRIES	OTHER
Consona	X	O	O	X	O	O	O	O	O	O	O	O	O
Deltek	O	O	X	O	O	O	O	O	O	X	X	O	X
Epicor	X	O	O	X	O	O	O	O	O	X	O	O	X
Infor	X	O	O	X	O	P	P	O	O	X	P	O	X
Lawson	X	X	X	X	O	O	O	X	X	X	O	O	X
Microsoft	X	X	X	X	O	O	O	O	O	X	O	O	O
Netsuite	X	O	O	X	O	O	O	O	O	X	O	O	X
OpenTaps	X	O	O	X	O	O	X	X	O	O	X	O	O
Oracle	X	X	X	X	X	X	X	X	X	X	X	O	X
Plex	X	O	O	X	O	O	O	O	O	O	O	O	O
QAD	X	O	O	O	O	O	O	O	O	O	O	O	X
Sage	X	X	X	X	X	X	X	X	X	X	X	X	X
SAP	X	X	X	X	X	X	X	X	X	X	X	X	X
Syspro	X	O	O	X	O	O	O	O	O	O	O	O	O
TOTVS	X	X	X	X	O	O	O	O	X	X	X	P	X
Unit4	O	X	X	X	O	O	X	O	O	X	O	O	O
Workday	O	X	X	X	O	O	O	O	X	X	O	O	O

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Section 5: Your Needs

Buying ERP software requires understanding potential solutions and, equally important, understanding the real business needs of your firm.

ERP software is a standardized product designed to work in a variety of companies, in many industries across the world, each with a different business strategy and needs. To address those different business requirements, ERP solutions are functionally large and complex. Even so, a specific ERP solution is often better suited for certain kinds of firms and less appropriate for others. Do not get lost in all of the functions and features jammed into these products, but identify the specific needs your firm requires from a new ERP solution.

Address Your Company's Business Strategy

To be more precise, look at some of the different business strategies firms may have when considering new ERP software. Your business may be attempting to eliminate numerous, redundant or distributed ERP solutions and replace them with a more limited or single shared service environment. Some firms may be replacing a technically obsolete ERP product with something considerably more modern and less risky. Other companies may be replacing solutions as their firm has outgrown older software (e.g., due to mergers or acquisitions).

Some firms plan the purchase of new ERP software to coincide with the deployment of new business processes and the attendant efficiencies that come with them. If your firm has nonexistent or dysfunctional ERP solutions today, it will likely consider a new solution to help it become a better functioning company. Other firms may seek solutions that include the latest best practices, to help improve processes and achieve a high level of excellence. A few firms may even look to new ERP solutions to help their firm rewrite the rules of competition in their industry. Most importantly, whatever the business strategy your firm is embarking upon, make sure the entire selection team has consensus and filters its software choices accordingly.

Choose for Business Fit

ERP solutions and the companies that license them must address significant vertical or industry-specific capabilities. Just because an ERP solution possesses manufacturing functionality doesn't mean it is appropriate for every manufacturer. For example, if your firm is a make-to-order discrete manufacturer, then a solution targeted for process manufacturers will be a poor functional fit. Sometimes, the industry differences can be quite significant even within the broad definition of an industry. Solutions aimed at oil and gas refiners are radically different than those for oil and gas retailers. You must be precise in defining your firm's exact industry or verticals and the specific vertical industry capabilities you need.

Consider the Technology Landscape

Few companies share the same technical environment. Each has different database management software, different systems management tools, different hardware, different reporting software, different office automation software and so forth. And, of course, they have different package and custom software they must integrate with their new ERP solution. Not every potential ERP solution integrates or interacts well with every technical environment. These differences in technical architecture support can be costly and complex. That's why your technical requirements must be well documented and thoroughly understood before making a new ERP solution decision.

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The ERP technology choice is even more difficult today as some buyers want an on-premise solution, other want an on-demand or SaaS solution, and others still want a hybrid or a hosted solution. Each of these choices has implications on the budget for your project. Different solutions impact the CAPEX budget more heavily, whereas others have a bigger impact on the company's OPEX. Finance executives will want to understand the full economic implications of any solution, and you'll want to prepare accurate total cost of ownership (TCO) workups for each alternative solution.

Understand Your Real Needs

Buying ERP solutions has changed over the years, yet many buyers and sellers still adhere to old buying and selling practices. Years ago, when ERP solutions were less mature, buyers often evaluated solutions based on demonstrated functions and features. These demonstrations often took days or weeks to complete, while vendors regaled prospects with an almost unlimited array of product features.

The function/feature demo is impractical today because the size of most ERP solution sets is huge. The typical ERP product line includes modules for financial accounting, human resources, supply chain management, customer relationship management, procurement, credit and collections, manufacturing, distribution, service management, project management and much more. Buyers must have a different approach to communicate their business needs and make a better, informed software selection. That approach uses business case scenarios and process designs.

Business case scenarios address the most complex or onerous issues that confront business executives and software users. An example of a scenario would be: "Our firm wants to pay its vendors from a single bank account out of our headquarters operation. However, we need to receive and vouch for all invoices at each plant and legal entity we have globally. How can the new system pay bills from one legal entity while the legal liability for such debts rests with a different legal entity?"

Smart ERP buyers should document a dozen or so of these complex business problems, communicate these to their short-listed vendors and evaluate each vendor's solution on its ability to resolve these matters efficiently and effectively. Focus the vendor's software demonstration not on the exact features that the vendor uses to solve the business problem, but rather on the elegance of the vendor's solution and how well it solves the critical business issues.

Other Considerations

ERP buyers should also consider how well each vendor can deliver efficient and effective processes. Look at the most labor-intensive and high-volume business processes in your firm. Make sure the short-listed software vendors can deliver solutions that produce improvements in these business processes. To do this, your firm may need to benchmark its processes before selecting software. Doing so will help your firm identify its poorest performing processes and will prompt the software selection team to seek better process designs, additional enabling technology and other ERP solution aids to improve business operations long-term.

In the end, your best solution will be one that:

- Delivers substantial process improvements;
- Meets the capital and operating requirements of the company;
- Solves your firm's most pressing business challenges
- Fits well with your technical environment; and,
- Provides the industry-specific functionality needed to deliver world-class business results.

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Making It Actionable

Depending on the size of your organization, your specific ERP-related goals and objectives may vary. Here are tips for organizations of all size to help you make the right ERP choices.

Small organizations often lack the funds or staffing of a large IT organization. As a result, when these companies shop for ERP solutions, they may need software that requires minimal IT staff. If your company is small, you may benefit from a solution delivered via the cloud in a SaaS delivery model. Vendors usually price these products based on a monthly usage fee per user.

For midsize companies, ERP solutions can still be an implementation and maintenance burden on small and often over-taxed IT departments. Frequently, implementation and support costs are also factors for these firms. While SaaS solutions are sometimes appropriate for midsize companies, buyers in the midrange should consider full, integrated software suites.

Look for an ERP solution that contains all the core functionality your firm requires (for example, Financials, HR, Supply Chain, Manufacturing, and so forth). Trying to integrate a number of best-of-breed solutions into a cohesive solution can add significantly to the initial implementation cost. Custom integration also adds risk and delay while creating downstream uncertainties when trying to deploy future product upgrades. When shopping for a full-featured, large product suite, keep an open mind about business transformation, because the process designs and workflows implicit in these solutions may not exactly match your firm's current workflow. If you can live with these tradeoffs (and the authors of this Guide recommend that you seriously consider doing so), large product suites may be the best approach.

For larger firms, one important consideration is how well the solution meets the organization's business and strategic objectives. For example, if your firm intends to standardize its operations and gain global visibility into business information, then it will need a solution that can deliver this functionality well. Such a solution must include strong support for multiple currencies and languages within a single reporting view. Larger firms may also want an ERP solution that can accommodate numerous future acquisitions. Whatever your strategic intent, make sure the ERP solution you select is up to the challenge and will provide sufficient flexibility to meet your needs for years to come.

In general, one can categorize companies that don't have an existing system (or any meaningful implementation experience) as Basic Buyers. Advanced Buyers already have legacy ERP systems and/or have key project team members with experience in multiple ERP implementation life cycles. Most companies fit somewhere along this spectrum, so the categories are not always black and white.

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Section 6: How to Buy: Key Solution, Cost and Vendor Considerations

When evaluating ERP software, it is critical to determine the key features that you are looking for. Once you have identified them, you can conduct a more thorough and informed decision process aligned with your specific business requirements and needs.

Solution Considerations

Use this list as a guide to features of most ERP systems. When evaluating solutions, carefully evaluate which of these features are important to your specific business. Achieving an accurate fit between your needs and the solution you buy is critical to ERP success.

10 Features for Basic Buyers

1) **Financials and reporting.** Evaluate how the software handles the general ledger, chart of accounts and critical financial reporting.
2) **Accounting with drill-down capabilities.** When viewing reports or summary-level data, is it possible to drill down into more detailed transactional levels of detail?
3) **Sales and order entry.** How are customer sales entered and tracked in the system?
4) **Inventory management.** How is inventory tracked? If necessary, are you able to track inventory in multiple locations or handle vendor-managed consignment inventory?
5) **Integrated modules.** Do all the modules tie together into a seamless system, or are users forced to use disparate modules or third-party bolt-ons to address some of your key business requirements?
6) **Procurement.** How does the procurement and purchasing process work in the system?
7) **CRM.** How are prospects and leads tracked, managed and converted into customers when they place their initial order?
8) **Dashboards.** Are you able to log in and see summary data on a regular basis? If not, how hard is it to find the key operational information you need to see?
9) **Technological fit.** How does the software fit with your current technology infrastructure and environment? Will the software require upgrades to your servers, databases, communications or other aspects of your infrastructure?
10) **Benefits realization and ROI.** How will the solution provide measurable results and a positive return on investment on the investment you are about to make in the software?

Keep in mind that the purpose of exploring these features is not necessarily to find the software that most closely matches the way your business currently operates. Most likely, the software will handle your needs, in a different (but hopefully better) way than you currently operate. It is more important to focus on the future end results you are trying to accomplish rather than the way you operate within your current system.

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10 Features for Advanced Buyers

In addition to these basic considerations, more advanced buyers should consider other features as well. While the aforementioned functionality is generally addressed by most systems in the marketplace, these advanced features are often key differentiators among various solutions.

1) **Product configurator.** If you sell make-to-order or customized products, will the system handle the complexities of your various product configurations?
2) **Product lifecycle management.** If you regularly update and improve your products, how does the system manage new designs, parts and other aspects of the product lifecycle?
3) **Document management.** If you need to track documents such as product or engineering design drawings, manuals or other documents, you may want to explore how the ERP system can help you track and integrate that information with the rest of your business workflows.
4) **Business intelligence.** The software's basic reporting functionality may not be enough and may require a more robust business intelligence module to support advanced reporting and data analysis.
5) **Logistics.** How does the system allow you to track products once they are built, shipped and leave the warehouse? Look for functionality related to shipping, traffic management and other key business requirements.
6) **Sales and Operations Planning.** Demand forecasting can be complex and unpredictable, so it may be helpful to find software that provides more robust and accurate forecasts that integrate with your production planning.
7) **Advanced Forecasting and Budgeting.** Similarly, you may find that you need more robust financial forecasting and budgeting.
8) **Development and Integration Tools.** Although it is generally not a good idea to over-customize the software, there are exceptions where you may need to change the software to fit your needs. What kind of development tools are available to assist a less technically savvy person configure and customize the software where needed?
9) **Multiple Deployment Options.** The beauty of modern systems is that there are multiple deployment options. In addition to installing the software internally on your servers, consider SaaS and hosted cloud computing options, depending on your needs.
10) **Predefined implementation services.** To help reduce implementation time and cost, some companies offer certain services on fixed time and price. Although not appropriate for every buyer, these services are worth investigating.

Additional Considerations

In addition to the aforementioned issues, keep the following items in mind:

Setting realistic expectations is key. Fully understand what the software can and can't do and be aware of the tradeoffs associated with any ERP solution. Also, keep in mind that implementations are hard work, so you will want to develop an aggressive, but realistic, implementation, resource and organizational change management plans. Doing so will help you fully understand the implications of the software purchase prior to making your final decision.

Consider vendor viability. Not all vendors are created equal, so understand the financial viability of potential vendors, including how financially sound they are, their investments in R&D and their product road map. You may find that some vendors are more aligned with your priorities than others.

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Cost Considerations

Organizations rarely take the decision to purchase and implement a new back office or ERP system lightly. Nor should they, because most ERP implementations are fraught with peril. By some estimates, fewer than 40 percent of these projects come in at or below budget, on time and with promised functionality. What's more, the Great Recession seems to have exacerbated these already dismal success rates. This section of the Guide covers the different types of costs involved with the purchase and implementation of a new ERP system, including:

- Up-front costs
- Recurring annual costs
- Upgrade costs
- Implicit costs (IT staff salaries)
- Neglected costs (data audits, readiness assessments, and so forth)
- Additional Considerations

A Case Study

Rather than looking abstractly at how organizations buy and implement new ERP systems, let's first look at how one midsize manufacturing company chose its ERP system in 2001. This case study approach will provide many important lessons for prospective buyers of these solutions.

Trimm, Inc., manufactures DC fuse panels for the telecommunication industry. Located in St. Butner, NC, the company keeps its manufacturing operations in the United States. In order to accomplish this, it required powerful systems. Unfortunately, in 2001, the company realized that its existing back office applications were insufficient to meet its current and long-term business objectives. For Will Newton, the company's president, the time had come to make the jump to a full-fledged ERP solution.

Trimm evaluated different vendors with a two-pronged process:

- Evaluating the standard reports generated by each vendor's offering against the company's strategic objectives
- Focusing on the company's existing business processes and how the different solutions handled those processes *without customizations*

In the ERP world, this type of vendor selection is often termed *gap analysis* and is typically comprised of the following steps:

- Identifying the key processes within the company
- Grading how each vendor handled those key processes
- Determining the gaps between each vendor's delivered functionality and Trimm's business processes
- Matching the strategic objectives of reports in the current and prospective systems

Like many organizations, Trimm had two primary objectives when selecting its vendor. First, it wanted to avoid customizing whatever product it purchased. Doing so would have been too costly and problematic. Second and arguably more important, most of the company's processes could be adapted. The introduction of a new system represents a rare opportunity for an organization to significantly change broken internal processes.

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In Trimm's case, the firm decided it was time to change the way in which it handled internal pricing. The company's old system required manual entry for all pricing. Newer systems delivered the ability to set up pricing structures based on formulas. As a result, only one entry was necessary. For Trimm, defining percentages and creating structures required some up-front work but paid off in the long term.

Essentials. For Trimm and other manufacturers, any ERP needed to the following:

- Record labor
- Handle the basics (such as inventory control, materials management, and so forth)
- Produce useful reports for all aspects of the company
- Allow future growth

Some applications had particular requirements. Ultimately, Newton and his team decided that it simply made more sense to adapt current business processes than modify the software. Trimm settled on Made to Manage (M2M) from Consona primarily because the application had strengths in manufacturing. Some products offered additional accounting functionality but lacked sufficient tools needed for operations. M2M provided basic integration with AutoCAD, a computer-aided design application for 2-D and 3-D design and drafting developed by Autodesk, as well as other features, to make it a better fit. This would be a big time-saver. Billing and materials in one system would seamlessly flow.

Up-Front Costs. Many ERP vendors operate under a traditional software license model. In the case of Consona, Trimm paid approximately $5,000 per individual license. Back in 2001, the company purchased approximately 20 licenses at a cost of $100,000 (today, the company requires fewer licenses). Lacking sufficient internal expertise in M2M, Trimm spent roughly $150,000 on consultants to install, configure and test its new system and to train employees. It's common for companies to spend 150 to 200 percent (or substantially higher) of the initial license fee on implementation consulting. Of course, this is an estimate; some projects require less, while many require substantially more. The spread is a function of facets such as:

- The specific application
- Internal resistance to change
- The willingness of the organization to change current business practices
- The state of the organization's data
- The amount of customization required to a "vanilla" application

Beyond license and consulting dollars, organizations typically spend anywhere from $3,000 to $5,000 per employee on application training. This may come in the form of a public class or a private one. It is important to note that these estimates are guidelines only, and may vary substantially from one company to another. When preparing your plans, do not rely on these numbers, but seek out accurate figures based on your specific situation.

Note that technology constantly changes, and ERP is no exception to this rule. Companies implementing new ERP systems today may be able to avoid some of the costs incurred by Trimm in 2001. Specifically, organizations that purchase SaaS alternatives such as Workday or NetSuite can save considerable funds on hardware (new cabling, new servers, technical training or consulting dollars required to install the application, and more).

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Recurring Annual Costs

Most ERP vendors make considerable profits by charging their clients roughly 22 percent per year per license in support. Industry expert Frank Scavo has estimated vendor margins to be greater than 90 percent. For example, an organization that initially paid $200,000 for software licenses can expect to pay an additional $44,000 on an annual basis for the following:

- Product updates, typically called patches or manufacturer service packs (MSPs)
- Troubleshooting technical glitches
- Access to support sites and knowledge bases

It's important to note what support does *not* cover. End users typically cannot call support or open a ticket to cover:

- Basic configuration questions
- Customizing the application
- Creating custom reports (such requests are subject to hourly consulting rates)

Of course, depending on the vendor, organizations may be able to seek independent support from companies such as Rimini Street. Wiser now than nearly 10 years ago, Newton says, "If I were purchasing a new ERP now, I would try to negotiate on vendor support as strongly as possible."

Upgrade Costs

Implementing version 1.0 of a system is not the end of the line. Products change to reflect increased functionality, new laws or regulations and vendor fixes. Every so often, organizations will need to upgrade their applications. Depending on the skill of the organization's IT department, these upgrades potentially can be done internally. In other words, a vendor cannot force its clients to use its resources to move to version 2.0. What's more, minor upgrades or "cyclicals" are often easily managed without major expenses. ERP vendors can charge anywhere from $10,000 and up to do an upgrade, depending on myriad factors. Again, be aware these numbers may not be applicable to your specific situation.

Implicit Costs

Unless IT is completely outsourced, organizations must pay employees to help support new systems. In the case of Trimm, its chief IT resource spends approximately 30 to 40 percent of his time supporting M2M. While this is hardly standard and hinges on many factors, foolish is the organization that purchases on-premise apps without devoting adequate internal resources to support and maintenance. Of course, in the SaaS world, buyers need not worry about application updates, technical troubleshooting and the like. SaaS vendors distribute product upgrades transparently, behind the scenes through the Web browser, without requiring effort from internal IT staff. That's one reason the SaaS model has become so popular.

Neglected Costs

Few organizations take the time — or spend the money — doing pre-implementation assessments. Lamentably, many organizations only find out midstream that major problems can derail their new systems and/or cause them to exceed their budgets, often by ghastly amounts. Spending $20,000 for a pre-implementation audit typically pays off in spades, by identifying issues such as:

- Data quality, integrity or management issues
- Problematic end users, internal politics or policies that may only manifest themselves after the organization has reached the point of no return
- Undocumented essential requirements — e.g., reports, functionality, and so forth

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Additional Cost Considerations

Open source ERP applications, such as OpenTaps, are becoming increasingly viable alternatives to the traditional on-premise model. However, never make the mistake of confusing open source with free. All software needs support — internally, externally and typically both. Business customers should be wary of relying on free support for mission-critical applications such as ERP.

Not all organizations are interested in cloud-based alternatives. Security issues aside, there are often more practical considerations. In the case of Trimm, the company's headquarters in rural North Carolina meant that it is tied to its phone company. In other words, cloud offerings might save money but the infrastructure simply isn't sufficiently reliable and redundant.

Lessons to Be Learned

The preceding provides a breakdown of the different types of costs that organizations can expect to incur when purchasing and implementing an ERP solution. While the numbers will vary based on the specific vendor, type of architecture (client server vs. SaaS or cloud-based), number of licenses, products purchased and other factors, the general framework applies to most companies making the plunge.

Vendor Considerations

When choosing a solution, you're not just choosing software, you are also choosing one or more firms that will partner with you through and after implementation. You will likely purchase the software licenses and maintenance from the software vendor, but you may leverage implementation services from the vendor directly, a third-party system integrator, or one of the vendor's value added resellers (VARs).

Vendor Relationships

It is important to find the partner that best fits your needs, so learn the strengths and weaknesses of potential implementation partners, including their team's experience, methodology and familiarity with your industry and business requirements. Find out what type of experience it has with the software in your industry. What types of project management tools, methodologies and processes will it leverage to make the implementation more efficient and effective?

10 Key Questions to Ask Every Candidate Supplier

Here are a few questions to ask potential implementation partners of your chosen ERP solution:

1) What kinds of customers do you typically serve? For example, small organizations or very large ones? Do you have a particular geographic or industry focus?
2) What kind of references are you able to provide to demonstrate your capabilities?
3) What is your process and methodology for implementation?
4) How will you facilitate process re-engineering and improvements during the implementation?
5) How do you handle organizational change management, beyond basic user training?
6) What type of project controls do you use to manage scope and budget?
7) How will you handle instances where we discover mismatches between our business requirements and the software's off-the-shelf functionality?
8) How will you define whether or not our implementation has been successful?
9) How are benefits measured and realized?
10) What is the experience and background of some of the team members you are proposing for this project?

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Choosing a partner to help you implement the software is just as important as choosing the software itself. Find a partner who doesn't just know how the software works, but understands how the technology will facilitate operational improvements. Finally, implementations are time-consuming and complex, so find a partner with a proven track record and with whom you are comfortable.

Vendor Support

ERP only has value when it works in your particular environment. For most companies, that means a software vendor relationship that includes maintenance and support. Support contracts can add significant cost to the lifetime expense of an ERP system. Be sure to consider these costs when calculating the ROI or payback period assumptions on which you base the initial purchase. For example, if maintenance costs 20 percent of the list price license fee per year, after five years the total maintenance fees start to exceed the original software purchase price.

When evaluating any software vendor, whether on-premise or SaaS, it is essential to consider the impact of maintenance fees, policies and service level agreements (SLAs) on your overall ERP expenditure.

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Section 7: The Focus Short List

The range of ERP software vendors supplying products to the market is substantial. Many of these vendors offer niche products tailored for specific segments. This range of choice is one reason product selection requires a detailed and careful evaluation process.

Although it is impossible to make specific product recommendations without knowing details about your company, use this Focus Short List as a starting point when looking at vendors. This list is not comprehensive and you should not base your purchase decision solely on it; however, all these vendors are well-qualified in their respective markets.

Small companies should consider:

- MS Dynamics
- NetSuite
- Plex

Midsize organizations should consider:

- Epicor
- Infor
- MS Dynamics
- Oracle JD Edwards
- Sage
- SAP
- Syspro

Larger companies should consider:

- Infor
- Lawson
- Oracle
- SAP

Companies that prefer open source ERP should consider:

- Compiere
- ERP5
- OpenBravo
- OpenERP
- OpenMfg
- OpenPro
- OpenTaps
- xTupple

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Section 8: Conclusions

Top experts in the ERP field wrote this Guide; each section describes a specific aspect of the ERP buying and implementation process.

As this report suggests, successfully buying and implementing ERP requires care and attention. Because ERP automates many aspects of an organization's operations, crossing traditional boundaries of finance, manufacturing and so on, it can be somewhat daunting to buy. However, ERP's ability to offer a single, accurate view of data across your organization is one of its greatest strengths.

ERP success depends on many different pieces coming together: understanding your own needs, selecting software, hiring consultants, going through implementation and, finally, improving and maintaining the system over time. Each step of the process requires many decisions, all of which combine to create the power that ERP offers.

If your organization is small, pay particular attention to ongoing operational support requirements. SaaS-based systems are great for smaller companies; because the cloud lets you outsource much of the IT infrastructure to a software vendor, it can be a lifesaver for small, over-burdened IT teams. Any time you must expand your IT organization to manage a complicated system, the overall costs will push higher. Be sure to factor all costs into your ROI calculations.

Midsize companies face a somewhat different challenge than small organizations. The need for flexibility may approximate what a much larger organization requires, but there are fewer resources available. In this case, you need to balance costs and operating resources against the flexibility your business demands. However, to contain costs, use restraint when choosing features or customizing the system.

Although many organizations find ERP customization to be seductive and tempting, resist the temptation to write custom code. We'll say it again: Don't customize your new system. Customized systems are expensive to integrate, take longer to implement and make upgrades painful and costly. Spend the time to find the ERP solution that most closely approximates your business requirements and then, to the extent possible, adapt your processes to the software. Just because you can make the new software do anything, does not mean you should.

Large companies typically face integration and implementation challenges far beyond what smaller organizations require. The need to interface with a variety of legacy systems adds layers of complication to many large enterprise ERP deployments. In addition, a multi-site or global workforce creates additional logistical and operational implementation challenges.

For this reason, large companies should select their system integrator with particularly great care. The cost of implementation services on a large project can easily can range from four to eight times the software license fees. While implementation is always a significant issue for ERP, larger companies face higher risk exposure than smaller ones.

One cannot overstate the relevance of implementation to all ERP customers. Software alone has no value unless it is deployed properly in your organization. The ultimate measure of an ERP system is whether users adopt the software and fully use it for the benefit of the organization. Accomplishing this goal often requires training and change management, especially when processes and roles change.

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Given the importance and cost of implementation services, Focus recommends choosing services providers with great care. Find providers who demonstrate serious commitment to a successful project outcome. Ask potential integrators and consultants to demonstrate high project success rates — be skeptical of unverified claims. Unless you are truly a large organization, consider using smaller, boutique consulting companies that may provide higher levels of service than global system integrators.

Final Words of Advice

In the Focus.com Brief *5 Critical Points for ERP Success*, the lead expert for this Guide, Michael Krigsman, offered the following thoughts on ERP. In closing, always remember that successful ERP is a business matter rather than a technical exercise:

1. ERP is about business value. Treat ERP as a major business investment rather than view it as a purely technical project. Even though ERP relies on technology, the primary function of any ERP system is delivering business value. Remember this during every aspect of the ERP process, from vendor selection through implementation and go-live. Always ask, "What are the business benefits of this investment?" Without defining concrete and specific business benefits, any investment in ERP is a waste of money and time. More than anything else, ERP is about improving your business.

2. Business fit is paramount during software selection. It's easy to get caught up in the technical aspects of software selection, but pay close attention to the business results you hope to achieve. Discuss this at length with the software vendor and any consultants you have engaged to help with the selection process. Put them on the spot and make sure they help identify concrete areas in which the software will make your company more efficient, profitable and so on.

Determine whether the software vendor has successfully implemented in companies similar to yours. If your business has unique attributes, then try to find a solution that supports vertical industry features and modules that match your requirements. Avoid writing custom code to the extent that you possibly can.

3. Prepare for transformation. One of the great benefits of ERP is the opportunity to improve how your business operates. Although change is hard, automating old, inefficient processes generally makes little sense. It's far better to use the implementation as a vehicle to streamline processes and simplify, or improve, workflows. This will likely involve changing how people inside the organization perform their day-to-day work, which is usually one of the most difficult aspects of an ERP implementation. Get ready for these changes and don't minimize their importance.

4. Embrace change management. ERP is all about transformation and improvement, making change management one of the most important determinants of implementation success. Communicate project goals and status frequently to the organization. And don't forget training and documentation, which receive insufficient attention on many projects. Going back to point one in this list, communication should focus on business goals and concrete benefits, rather than just reciting schedule dates.

5. Line up strong executive sponsorship. An experienced and committed executive sponsor is an ERP project's best friend. However, the sponsor must genuinely be engaged in the project as an active leader. Active leadership requires time and attention from a senior company executive; ideally, even the CEO should publicly get behind the project. Be sure your sponsor is not just a figurehead, lending his or her name without expecting to be involved. When the chips are down and your team must make difficult decisions, you need that sponsor right behind you every step of the way.

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About Focus Research

Each year U.S. businesses spend more than $75 trillion* on goods and services. And yet there has not been a definitive source of trustworthy and easily accessible information to support business buyers and decisions makers — especially those in small and midsize businesses. Filling this gap is the mission of Focus Research.

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* Source: Visa, Inc. Commercial Consumption Expenditure Index fact sheet.

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