

AVOIDING THE PITFALLS OF ERP SYSTEM IMPLEMENTATION

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ERP implementation is a massive undertaking fraught with risk. This article is filled with practical advice for minimizing these risks. It looks at the technical, operational, and legal aspects of ensuring a satisfactory ERP deployment.

IN THE 1990S THERE WAS THE PROLIFERATION of ERP systems. One reason for this growth was the Year 2000 problem, which caused many companies to replace their outdated legacy systems with more modern technology. Whereas in the past companies developed their own software applications, they were instead presented with the opportunity to purchase fully integrated software solutions that would replace all, or most, of their antiquated systems. Along with the promise of having the latest technology that represented the best practices of many companies' prior implementations of ERP systems, the software could be implemented in a shortened timeframe with less risk. The purveyors of these systems were large companies such as SAP, BAAN, Oracle, and J.D. Edwards. However, the bloom soon faded from the rose as many companies reported failures or, at the least, they faced many issues in implementing these behemoth systems. Most notably, Hershey Foods missed shipping their products during the Halloween season in 1999 following such an implementation.¹ Other ERP failures have not necessarily reached the headlines for various reasons but have led to numerous lawsuits. Typically, parties have found a way to resolve these disputes through a settlement or the privacy of an arbitration process. This article attempts to highlight some of the issues to consider when

embarking on an ERP implementation. It does not discourage the journey, but cautions the traveler to be vigilant of the potential issues. The issues are broken into three categories: technical, operational, and legal.

TECHNICAL AND OPERATIONAL CONSIDERATIONS

It is almost impossible and not advisable to change an organization to meet the out-of-the-box solution of an ERP system. Some people call this installing "vanilla," a reference to buying a very plain flavor of ice cream instead of an exotic flavor such as tutti frutti. Although companies desire rapid implementation, and are willing to accept the limitations of a vanilla installation, it is usually not realistic. Of course, installation is faster if a company can avoid customizing and reprogramming the system, which most packages allow. That also makes the package easier to upgrade as the software vendor releases new versions and upgrades. However, installing vanilla typically forces a company to change operating procedures. And while many company processes are holdovers from the past and offer no strategic advantages, some processes clearly do provide strategic advantages. These advantages are usually not in the financial area (e.g., accounts payable, accounts receivable, or general ledger). More

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often, they are in the inventory control, order pricing, or manufacturing areas. These are the sacred cows that differentiate a company from the competition, and the ERP package must be adapted to these needs, not the reverse. Any successful ERP implementation must not impose operational philosophies on the organization.

Scheduling the Installation

Everybody wants to get the package installed as soon as possible. Feeling this pressure, the package vendor and its implementation partner might promise a six-month implementation period. However, be very wary of these kinds of promises. Remember the first laws of software implementations: it takes longer and costs more than originally planned.² Regardless of what resources are thrown at the project, it just takes time to get it all done. Unexpected problems can arise in the pilot phase. This requires either modifications to the package or a commitment by a company to change its own processes to match the package's methods. That reconciliation takes time. Change is painful and organizations resist change. Other tasks are usually minimized in the planning process but take much longer, such as testing, training, and rollout. Regardless of everyone's best intentions, it takes a long time to successfully implement an ERP. Hershey Foods found that out the hard way, like many other large sophisticated companies, not to mention the small company implementations that litter the landscape.

Cost and Organizational Efficiencies Take Time

Although most companies invest millions of dollars and thousands of person-hours in pursuing an integrated software solution to help run the business, few organizations have achieved the results that they envisioned when calculating their first planned return on investment (ROI).³ Most organizations do not receive economic benefits for months, if not years, after the project is complete, and that completion can be several years for many large multidivisional organizations. Many organizations report that most frequently savings were realized in such areas as improved financial management; faster, more accurate transactions;⁴ or better managerial decision making. Few organizations realize headcount reduction or increased revenue.⁵ Although such items as headcount reduction or increased revenue are

easily measured, measuring improved financial management or better managerial decision making is more difficult.

Potential Problems with Third-Party Implementation Partners

Although there are many third-party implementation partners that are very familiar with an ERP package that is being implemented, that does not always hold. Especially when a package includes a new version, an implementation partner might be learning on the job. Also, many consulting companies hire a sizable number of recent college graduates and use them as the worker-bees on implementations. Frequently this might be their first exposure to an ERP package, and they are learning on the job. More importantly, no matter how experienced the implementation partner is with an ERP package, they do not know the contracting organization's business and its intricacies, which leads to the next issue.

This Is a Team Sport

Regardless of how many people are included to help from an ERP vendor or an implementation partner, it stills requires a major commitment from an organization's employees. Only the employees know the processes and institutional history that makes the organization successful. The greater role employees play in the implementation, the higher the likelihood of a successful implementation. This ensures that undocumented knowledge is covered and provides a greater buy-in from the organization. The kiss of death for a system is if the organization rejects the changes that the system requires. Conquering cultural issues is mandatory for a successful implementation.

Vendors May Overpromise

By definition, ERP systems are both integrated and comprehensive solutions. Each of their modules has many features and options. It is impossible to vet each function and feature before signing on the dotted line. Often, an ERP vendor promises a new feature in the next version of its system. Organizations should be highly skeptical of these promises because they often turn out to be worthless.⁶ Vaporware has a long history in the computer industry. All promises must be in writing and specifications for the promised software well understood.

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The Importance of Detailed Specifications

Detailed specifications are a requirement for several reasons. How does an organization ever know if a system performs as required if it has never defined requirements? This is the equivalent of asking a building contractor to build a house without detailed blueprints. Detailed specifications should be a major component of the contract that an organization has with the ERP provider and third-party implementer. Detailed specifications should include not only information about features and functions, but also requirements concerning volumes and response times. A system that has all the necessary functions but has a suboptimal response time can never be acceptable. How long are end users willing to sit at a computer monitor and wait for a response? Five seconds, ten seconds, three minutes? Response time frequently is the difference between the success and failure of a system's implementation.

Infrastructure Design Must Be a Collaborative Effort

Infrastructure can also make the difference between success and failure. ERP vendors neither prefer to be involved in nor take any responsibility for the design and specification of hardware and network infrastructure. However, it is the ERP company that knows the most about its software's demand on both hardware and a network. ERP software companies usually disclaim all responsibility for hardware and network infrastructure in their license agreement. They assume no liability and place all responsibility on the client for hardware and network sizing and configuration. This places the client in a no-win situation. The client must force the ERP company into assuming some level of ownership in the hardware and network configuration decision. This issue has been the source of several high-profile lawsuits in failed ERP implementations.

Legacy Data Cannot Always Be Converted for ERP Systems

Organizations usually have a plethora of data in legacy systems. The problem is that this data might not be compatible with the new ERP system. Also, if legacy systems are not integrated, an organization might be faced with having data that represents multiple versions of the truth. For example, accounts payable may have one file for a vendor and the purchasing department another for the same vendor, and both

files do not contain the same information. One has a payment address and the other an order address. Telephone and fax numbers might be different. Data cleansing and consolidation is a necessary step in the data conversion process. A group must be assigned responsibility to evaluate the quality and completeness of legacy data.

Stress Testing Must Be Performed before Going Live

Many companies make the mistake of assuming that once an application concept is proven in the pilot phase, it can go live. That is far from the truth. The pilot phase is merely a prototyping phase. Once that is complete and all the data has been loaded into the system, stress testing must be performed. What works in small volumes does not necessarily work when put under the operational loads of a live environment. There are various tools that can simulate production volumes. Stress testing may reveal that response time degrades to unacceptable levels, or that the network becomes overwhelmed with volume. The system might need to add additional bandwidth or additional processors.

Training

Training is the stepchild of most software implementations. It is the one area that cannot be overlooked or underemphasized. Without adequate training, a system can never be used properly, nor can it ever achieve the returns that were projected. Training involves almost the entire organization. Anyone who uses the system or has some connection with the system must have some level of training. The cost of training should not be underestimated. Training is frequently as costly as the system itself. Resolving operational and cultural issues contributes greatly to a system's success. And training is an integral part of that process.

LEGAL ISSUES

Contracts define what happens when things do not go according to plan. As long as everything goes well, nobody bothers to look at the software license agreement. However, should problems arise, and most implementations face some level of problems, the contract is the source of resolution, or at a minimum an arbitrator as to the understanding of the parties.⁷ There should be separate contracts between an organization and its ERP supplier, and between

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the organization and its third-party implementation provider. Vendors often attempt to disclaim warranties, limit their liabilities, and shy away from as much responsibility as possible. An organization's job is to negotiate not just the best price but also the most favorable terms and conditions. Contrary to popular opinion, an organization can negotiate the terms of a contract. Vendors can resist changes their "ironclad" or "standard" contract terms, but they can be made to negotiate. There are several components to a valid contract; some of the more important are discussed in the next sections.

Pitfalls of Integrated Contracts

An integrated contract states that the contract is the entire understanding of the parties and supercedes all other representations, whether oral or written. The result of an integrated contract may be to void whatever promises the ERP vendor or implementation partner might have previously made orally or in writing, and a vendor can argue it cannot be held to such promises.⁸ It is best, when possible, to make all of those promises and representations a part of the contract. At a minimum, the contract should acknowledge that the parties have exchanged other representations or promises.

Inclusion of Detailed Specifications

Without detailed specifications in a contract, there is no way to hold vendors responsible for their products and services.⁹ Those specifications should include product functions, features, program specifications, listings of reports and query capabilities, and, most importantly, response times.

Limitation of Liability Clauses

Most vendor contracts limit a vendor's liability to the amounts that an organization has paid to the vendor. The problem for a contracting organization is that in almost all cases, total costs are a multiple of ERP software costs. It is not unusual for an organization to spend more than ten times the original cost of the purchased software for such direct costs as support software, hardware, networks, and third-party implementers. That usually does not include the internal cost of personnel and potential lost revenues and profits. Based on the typical limitation of liability, these additional costs or damages may be unrecoverable unless the liability clause is eliminated or modified.¹⁰ Sometimes,

courts preclude defendants from hiding behind limitation provisions¹¹ but limitation of liability clauses are usually upheld.

Arbitration versus Litigation

Many software providers have recently put mandatory binding arbitration clauses into their contracts. This requires the two companies to go before an arbitration panel consisting of three arbitrators. This is called alternative dispute resolution (ADR). The typical choice is the American Arbitration Association. The theory is that arbitration is a cheaper and faster venue for resolving disputes. However, many organizations leave the process feeling less than satisfied with the process and the resolution. If an organization wants to be able to avail itself of the court system to resolve a potential dispute, then mandatory arbitration clauses must be avoided. Along with the venue of dispute goes the choice of law. A software company often wishes to impose the laws governing the software company's state instead of the laws of the organization's state. The issue arises regarding whether trial or arbitration proceeds in a software company's state. All of these are issues open to negotiation, and an organization should make every effort to try and tip the balance in its favor; it should not be afraid to negotiate hard.

Payment Issues

Payment issues, like other contract terms, can in many cases be negotiated. Most ERP systems are licensed on a per-user basis for a term. Contrary to popular belief, many ERP software companies provide flexible pricing, especially when they are prepared to execute contracts near the end of their fiscal year and they need revenue to meet investor expectations. This includes even some of the largest software companies. Not only is the cost of the license negotiable, but so is the timing of the payments. Because an organization should be wary of software vendors promising functions that are not part of the currently released version, it can negotiate payment terms that help guarantee that the required functions are provided.

Because most ERP implementations require considerable consulting or other programming services, the contract must state how these payments will be made. Most software companies want to bill for these services monthly as they are provided. That does not give much protection to a buyer if a program does not

work when it goes live some months later. An organization should negotiate a payment plan that provides for a holdback percentage in case the software does not work properly. Just because software works in prototype mode does not mean that it works properly when executed under the stresses of a production environment.

Who Owns Software Modifications?

Under current law, although an organization paid for modifications, unless it specifies in the contract to the contrary, the software company owns the modified software. Under the “work-for-hire” concept, the author of the product owns the copyright to the work. An organization must specify otherwise in its contract if it hopes to own the code. Because in many cases an organization is modifying existing vendor software, the new program might well be considered a derivative work under copyright law. Again, the parties should negotiate these issues.

CONCLUSION

In a business climate where years of work are compressed into months, in a technology climate where leading edge wizardry is soon obsolete, and in a legal climate rife with litigation and uncertainty, businesses must make software choices based on limited information. However costly the planning process may be, making the wrong choice could be far more expensive. Understanding the risks and finding ways to mitigate them is a necessary part of the process. Many organizations like to talk about their relationships with their suppliers as partnering. The problem is that partnerships require risk sharing, something that is not present in the current use of the term “partner.” An organization must remember that it is the customer is in this relationship and negotiate accordingly. Most importantly, an attorney is an integral part of the team that is negotiating with the ERP supplier and third-party implementation provider. Attorneys are called coun-

sel for very good reason. They provide counsel to help avoid problems; and if an organization has a problem with the ERP system it has purchased, hopefully they can help get the organization out of trouble. Let the buyer beware. ▲

Notes

1. See Craig Stedman, “Failed ERP Gamble Haunts Hershey,” *Computerworld*, Nov. 1, 1999.
2. See, e.g., *Vmark Software, Inc. v. EMC Corp.*, 37 Mass.App. Ct. 610, 617, 642 N.E.2d 587 (1994).
3. See Davenport, Harris, and Scott, “The Return of Enterprise Solutions: The Director’s Cut,” Accenture, 2002.
4. See, e.g., *USM Corp. v. Arthur D. Little Sys., Inc.*, 28 Mass.App. Ct. 108, 546 N.E.2d 888 (1990) (describing the importance of speed in a system’s functionality).
5. In *Who Says Elephants Can’t Dance*, Louis Gerstner discusses how he changed IBM’s organization and culture to meet the needs and challenges of the new technology paradigm.
6. See, e.g., *Chatlos Systems, Inc. v. National Cash Register Corp.*, 635 F.2d 1081 (3d Cir. 1980) (a software vendor is sued for failing to provide four of six promised functions).
7. See, e.g., *Camas Colo. v. Bd. of County Comm’rs*, 2001 Colo.App. LEXIS 667 (April 2001); *Scott Co. v. MK-Ferguson Co.*, 832 P.2d 1000, 1002-03 (Colo.App. 1991).
8. See, e.g., *L.S. Heath & Son, Inc. v. AT&T Information Systems, Inc.*, 9 F.3d 561 (7th Cir. 1993) (the defendant won summary judgment on lower court because the integration clause freed it from pre-contractual representations; on appeal, the integration clause was found to be insufficient); *Sierra Diesel Injection Serv., Inc. v. Burroughs Corp.*, 890 F.2d 108 (9th Cir. 1989).
9. *Hersch Co., Inc. v. Highline Village Ass’n*, 30 P.3d 221 (Colo. 2001).
10. See *Caudill Seed & Warehouse Co. v. Prophet 21 Inc.*, 123 F. Supp. 2d 826 (E.D. Pa. 2000) (“[W]hen an exclusive remedy fails, a buyer may seek the entire range of remedies available under the UCC.”); *RRX Indus., Inc. v. Lab-Con, Inc.*, 772 F.2d 543 (9th Cir. 1985).
11. See, e.g., *Shell Western E&P v. Dolores County B+d. of Comm’ers*, 948 P.2d 1002 (Colo. 1997).