

Leverage ERP

Align IT with Business
to Improve Performance



V E N T A N A
R E S E A R C H

www.ventanaresearch.com

Ventana Research Headquarters
1301 Shoreway Rd, Ste. 208
Belmont, CA 94002
info@ventanaresearch.com
(650) 631-0800

Ventana Research Europe
2nd floor, Berkeley Square House
Berkeley Square, W1J 6BD London
europe@ventanaresearch.com
44 (0) 20 7887 6012

Leverage ERP

Align IT with Business to Improve Performance

Copyright 2004 Ventana Research, Inc.
All rights reserved. Copying, reproducing, or lending
without permission from Ventana Research is prohibited.

Ventana Research

Corporate Headquarters

1301 Shoreway Rd, Ste. 208
Belmont, CA 94002
info@ventanaresearch.com
(650) 631-0800
www.ventanaresearch.com

Europe

2nd floor, Berkeley Square House
Berkeley Square, W1J 6BD London
europe@ventanaresearch.com
44 (0) 20 7887 6012

TABLE OF CONTENTS

- Executive Summary..... 4**
- Assess Current ERP Solutions to Optimize Business Value 5**
- Have ERP Investments Paid Off? 5**
- How Companies Benefit from Improving ERP Systems..... 7**
 - Increase Productivity 7*
 - Address Performance Management Needs 8*
 - Implement Business Process Improvements 8*
 - Leverage Technology 9*
 - Address Organizational Changes 10*
 - Enhance Adaptability 11*
 - Avoid Out-of-Support Software 11*
 - Consolidating ERP Systems 11*
- Why Improve the IT Infrastructure..... 13**
 - Infrastructure Performance Requirements 13*
 - Business Process Support 13*
 - Lower Operations and Maintenance Costs 13*
 - Support New Technologies 14*
 - Adaptability 14*
 - Recovery and Continuity 14*
- Infrastructure Capabilities Needed to Support ERP 15**
- Determine the Next Steps 15**
 - Consider What Is Possible..... 15*
 - Consider the Resources Required..... 15*
 - Think broadly about how to value cost/benefits 16*
 - Constructing the Business Case..... 16*

Executive Summary

Improving performance to create lasting value is a top priority for companies. Ventana Research provides clients practical advice on designing and implementing performance management initiatives. Quite often, we find companies' ERP systems are a barrier to improving performance. To improve performance, companies must address three issues:

1. Missed opportunities to redefine and automate processes that consume a great deal of waste time and resources.
2. Inability to obtain *all* of the information needed in a timely fashion to make the right decisions.
3. Failure to keep ERP software synchronized with internal processes.

The root cause of these issues is the outmoded and inefficient ERP system in place. Different business units may be using software from different vendors, they may be several versions behind the most recent software release, and the infrastructure supporting the software may be fragmented creating operating inefficiencies in the IT department.

We recommend periodic assessments of the existing IT environment to ensure alignment with business goals aimed at improving performance. This assessment certainly includes the ERP system. We often find business executives are unaware of the full business benefits that today's ERP solutions can provide. An examination of the existing ERP system's capabilities and the associated processes will probably reveal opportunities for improving the system to redefine and automate processes to promote operating efficiency, achieve greater value from company assets, and improve management's decision-making capabilities.

Companies and the business environment they operate in are always changing. Occasionally and unexpectedly, they can change drastically (new regulations, acquisitions, etc.). Current ERP systems implemented in the lead up to Y2K may not have kept up. Thanks to technology advances and the development of in-house expertise in this area, improving ERP solutions is not nearly as painful or costly today as the original implementations.

Deriving more value from an ERP solution and its underlying infrastructure is the focus of this white paper. At the end of this paper, we advise companies to consider what is possible with an improved ERP system, consider the resources required and think broadly about how to value the costs versus benefits when constructing a business case.

It is important to note that an assessment of the underlying infrastructure is as essential as the ERP software itself. Too often business executives underestimate the value of the infrastructure to deliver on the full capabilities of the ERP system, existing or improved. We cover this in this whitepaper as well.

Assess Current ERP Solutions to Optimize Business Value

Ventana Research advises clients to periodically evaluate their IT solutions to determine if they have technical performance, or strategic, gaps. Over time internal business processes improve, best practices evolve; technology reworks what is practical and the external environment (regulation, industry structure, etc.) changes. Keeping core ERP solutions current and expanding the scope of deployments to achieve greater efficiency, as well as promoting more effective business, is required to maintain its optimal performance.

Companies invested a lot of time and money implementing ERP solutions in the 1990s. The process was often painful and managers were not always sure they received a positive return on this investment. The system is running smoothly now, so why should a company make changes?

Typically, businesses evolve incrementally. Over time, the cumulative impact of these changes on the capabilities of the ERP system can be negative. Modifications to business processes may not have been implemented well in the IT infrastructure, or may not have been automated at all. Although senior executives may be aware of best practices, they might have avoided altering the ERP system because they could not support the changes or the changes were too expensive to implement. Regulatory environments change at the stroke of a pen. Companies may simply scramble to adapt and wind up with poorly coordinated processes, software, and systems. Over time, even the best technology becomes functionally obsolete, and companies replace and upgrade in a piecemeal fashion.

For all of these reasons, and given the average age of today's ERP systems, we advise business executives to examine the software and supporting infrastructure that manage their core business processes because updating and improving them can be a necessary and beneficial investment. Changes to ERP solutions that might have been expensive in the past may be much more affordable today because of advances in technology (particularly using the Internet) and because organizations have much more experience using these technologies. Enhancements that initially might have required outside consultants now can be done quickly with existing staff.

Have ERP Investments Paid Off?

Corporations have invested billions in ERP software over the past ten years as they made sweeping changes to their business processes and accounting systems. Some early studies showed ERP investments produced negative returns. Today, though, it is hard to imagine running a company without them. Ventana Research contends past investments have been productive, and investments companies are making today in ERP solutions are likely to have positive returns, provided they are assessed appropriately and implemented properly. What has changed since the first analyses? Four things:

First, the costs of executing the initial rollouts were high for software, consulting services and hardware. Today we find the changes typically required to keep up to date are considerably smaller if companies build on their existing vendor relationships, design changes well, and negotiate wisely. Moreover, five or ten years

ago, few companies had the expertise on staff to handle these projects; today they can take care of a considerable share of the work.

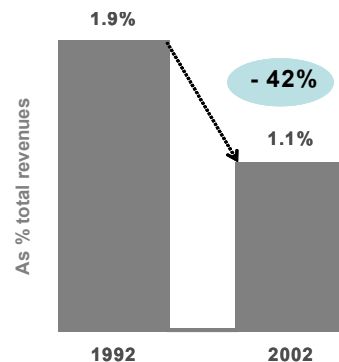
Second, the deployments of the 1990s were protracted and it took a considerable amount of time to implement business process changes in larger organizations and then benefit from these shifts. The time to benefit was long, diminishing the calculated return. Today, the incremental changes companies can make should take much less time.

Third, companies found that deploying ERP solutions automated the collection of enterprise data in a single system. It did not solve their real problem – getting useful information out of these systems to drive better decisions and improve business results. Even during the past recession when companies slashed IT spending, organizations invested in business intelligence software, analytical applications and the like to improve business performance.

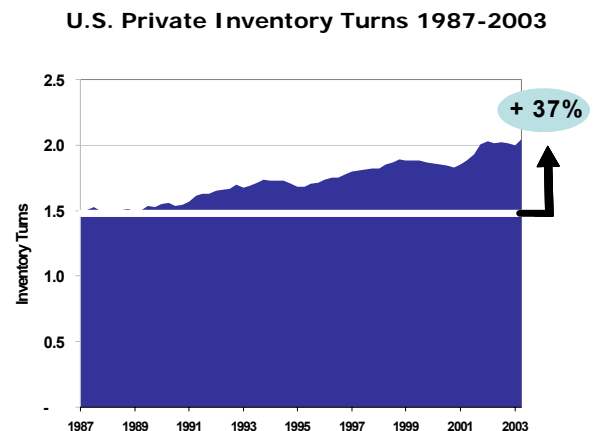
Fourth, many of the financial analyses focused only on the immediate impact on IT department cost savings and almost never incorporated the impact of new business process capabilities, the value of supporting related information technologies, and how the systems were able to cut the cost of running the business.

Sometimes it is difficult to appreciate the benefits of software systems. Almost nobody ever installs an ERP system, flips a switch, and immediately sees the impact on the bottom line. Yet, over time, the benefits accumulate and the impact can be significant. While it may be difficult to measure the ROI on an individual company basis, there are “big picture” measures that illustrate the benefits.

For example, data from a global benchmarking firm shows that over the past 10 years the cost of running the typical finance organization has dropped from 1.9% of revenues to 1.2%, a 42% decline. Applied only to the Fortune 500, Ventana Research estimates the impact translates to annual savings of \$56,000 million. We assert almost all of the improvement in the efficiency of finance organizations has been the result of financial systems automation that has enabled this part of the business to operate with much leaner staffs using much less expensive information technology assets.



We see another measure of improved efficiency from ERP investments in inventory management. In the United States inventory turns increased from 1.5 times annually at the end of the 1980s to 2.0 times more recently. It is difficult to put a precise value on the economic impact of a one-third improvement in inventory efficiency, but it is easily billions of dollars annually. A combination of technologies (not just IT), regulatory changes, and management techniques working together drove this improvement. Without the investment in IT, however, we think the improvement would have been considerably lower.



How Companies Benefit from Improving ERP Systems

As the world economy reaccelerates, Ventana Research sees companies investing selectively in information technology. Ventana Research advises our clients to assess their major IT systems to determine if there are cost savings that can be achieved, and determine how well their software/hardware infrastructure supports existing strategy and business processes.

We find that companies that evolve their ERP solutions usually do so for any combination of the following reasons:

- Increase productivity
- Address Performance Management needs
- Implement business process improvements
- Leverage technology
- Address organizational changes
- Enhance adaptability
- Avoid obsolescence
- Consolidate instances

The focus might start with accounting/finance functions, but many companies also want to enhance their human resources management, manufacturing, and other operational IT systems that are (or could be) handled by the ERP system. Addressing some of these factors can produce measurable savings (e.g., productivity increases). If a business case has to be constructed, it is easy to quantify these to calculate a return. Other factors may have much greater payback over the long run (e.g., implement business process improvements) but are harder to quantify because the benefits are indirect or difficult to prove ahead of time. A company facing the end of technical support may have a relatively easy choice if the transition to the new version is simple and with a leading vendor. The more difficult choice occurs when the legacy system has substantial customizations or vendor viability is a concern.

Increase Productivity

Companies can easily enhance overall business performance and increase productivity when they improve their ERP solutions, especially if the software they are running is several years old. This is particularly true for systems when companies took implementation shortcuts to meet the Y2K deadline. It also may be the case if plans for integrating systems were put on hold over the past 2-3 years because of capital spending constraints.

Reasons for Changing ERP

- Productivity
- Performance Management
- Business process improvements
- Leverage technology
- Organizational changes
- Adaptability
- Avoid obsolescence

Newer releases of software might automate certain business processes. They might support specific vertical industries in ways that enable employees to do their job faster and with fewer errors. A new release might allow the company to eliminate in-house or third-party applications they are paying to maintain. Companies must look at how improving the ERP system might improve productivity of the IT staff that supports the systems.

Address Performance Management Needs

Performance Management has been the focus of business executives for the past several years. The purpose of Performance Management is to optimize business processes while aligning them with the organization's strategy. Many ERP software packages have added specific pre-built Performance Management features (e.g., pre-built scorecards, business analytics, etc.) over the past few years as demand for these capabilities has increased. Others have engineered the software to make it easier to integrate with other vendors' Performance Management offerings. Some ERP vendors have established closer relationships with reporting and business analytics software companies so migrating to a new version may be either beneficial or even necessary to achieve the full benefits of integration.

Implement Business Process Improvements

Business process re-engineering (BPR) was (in theory at least) one of the reasons companies originally invested in ERP solutions. Although some actually implemented entirely new approaches, often the purpose was to standardize an existing method across business units and to automate simple manual processes to cut administrative overhead. Few companies took advantage of the capabilities these systems offered to rethink how they executed functional processes, particularly if they crossed business silos. Beyond organizational resistance, it was often too expensive and too difficult to deploy and maintain these sorts of innovations with the technology of the day.

Today, most of the technical issues have been resolved allowing for more affordable implementations than ever before. To remain competitive or to gain an advantage, executives must assess if core business practices can be restructured to lower costs, sell more effectively, improve customer satisfaction, and so on. For example, attention is returning to integrating and automating cross-functional business process chains such as procure-to-pay (aimed at increasing earned discounts) and order-to-cash (to reduce days sales outstanding).

Another, less sweeping example is redesigning billing dispute resolution management to permit faster and more effective response to customers. Leveraging the wide acceptance of the Internet, electronic bill presentment and payment (EBPP) has gone from "the next big thing" of the Internet bubble years to mainstream acceptance because it streamlines routine business transactions. It requires fewer steps, typically speeds collections, significantly reduces processing errors, cuts costs, and may even improve customer satisfaction.

Companies should examine whether they can profitably outsource non-strategic parts of their operations. They must explore to what extent a greater degree of collaboration with suppliers, partners, and customers will increase competitiveness or lower costs. Increasingly ERP solutions make it easier to implement and obtain economic advantage from these sorts of innovation.

In addition to these operational enhancements, there may be regulatory requirements contributing to the need to evolve ERP solutions. For example, some larger companies have reduced (or are considering reducing) the number of core financial systems software they operate to make compliance with Sarbanes-Oxley easier and to reduce the cost of audits in a more stringent regulatory environment.

Leverage Technology

Over the past five years, Web and mobile technologies have evolved and matured to the point where they offer capabilities to improve both business and IT performance. Ventana Research advises its clients to overlook the nonsense of the Internet bubble years and concentrate on the wide range of capabilities that Web and mobile computing technologies can confer on their business. Enhancing ERP solutions with these capabilities is much easier and less expensive than before.

The Internet has created a universal network that can connect anyone to everyone inexpensively. This makes it possible for corporations to save money by giving all employees access to self-service applications. In the human capital area, the employees themselves now can do many operations that used to require HR department involvement (e.g., scheduling vacation time, handling address or dependent information changes, looking up records, etc.) from their desks, a factory floor kiosk, or from home. Employee travel can be managed over the Web, from approving the trip, through making reservations, to submitting expense information.

ERP solutions that take advantage of the Web can also offer collaboration features that allow employees to work together from different places either at the same time or asynchronously. This kind of flexibility facilitates faster and less expensive execution of business processes.

Integrating mobile computing capabilities into ERP solutions is another area companies should investigate to enable new business processes and to save money executing existing processes. For instance, companies with field sales and support people can use mobile systems to check inventories and commit to delivery dates to enhance customer satisfaction and gain a competitive advantage. Orders placed from the field can be directly inputted into systems, speeding up the cycle, reducing the chance of errors, and cutting order processing costs.

Another technology companies can employ to leverage their ERP solutions is applications integration. Applications integration makes it possible to link software packages from multiple vendors and internally built applications to automate a business process beginning to end.

In the past, a business task might have involved passing physical files and paper documents from one employee to the next along with handwritten notes. Initially, computer systems automated pieces of the process but individuals had to work with multiple applications and actively push the process forward. With applications integration, from the employee's perspective, the entire

Leveraging Technology

- Cost savings
- Customer satisfaction
- Faster execution
- Greater collaboration
- Competitiveness
- Cross functional processes through applications integration

process uses one software solution. The process can manage itself and an employee can complete many steps now without any direct involvement.

There are several technical approaches companies can choose from for applications integration including web-based. The best solution depends on an organization's situation. In deciding among different approaches, Ventana Research advises companies to evaluate them on their existing requirements and ease of integration with existing systems, as well as how easy it will be to maintain the integration as systems and processes evolve.

Web services are Internet-based enterprise applications that use open, XML-based standards and transport protocols to exchange data. From a business perspective, Web services are an emerging channel that uses the Internet to deliver process automation, applications functionality, and data. Ventana Research sees companies incorporating Web services into business processes to lower costs, speed execution, and enable employees to focus on higher value-added tasks.

The list of Web services offered is long and growing longer. For example, Amazon.com uses Web services to make it easier for its thousands of retailing partners (which range from large bricks-and-mortar stores to small Internet-only vendors) to manage their inventories offered through Amazon's site. These partners can also download up-to-the-minute product information to ensure competitive pricing of their products.

Businesses can use Web services to support commercial transactions in many ways. For example, companies can automate credit checks to establish accounts with corporate clients, or to confirm there has been no change in credit rating when they take orders. Employees focus only on exceptions, rather than having to process each credit request. Moreover, if there is a negative credit exception, some ERP systems can configure the software to notify the relevant sales people and the accounts receivable managers who may need to examine related receivables balances to determine if they are still collectable.

Human capital is another area where companies can use web services in business process execution. Companies can benchmark employee salaries at detailed level against third-party databases, integrate with job posting boards, and even maintain and share organization charts within the company, rather than purchasing a dedicated application.

Web services are becoming a mainstream phenomenon. We assert it is a very good reason for improving an ERP solution and advise companies evaluating new ERP software to assess how well it incorporates existing services and how easy it is to integrate new ones.

Address Organizational Changes

Three sorts of organizational changes can be powerful arguments for improving an existing ERP system: growth, restructurings, and acquisitions.

Despite the difficult economic conditions over the past several years, many companies are larger than they were when they implemented the last ERP system, and it is likely they will grow larger still in the expansion. Enhancing the existing software may be indicated if, with a larger or more complex organization, the company now must use a broader set of functionality not implemented initially, or which the ERP vendor added (or improved on) since the existing configuration was put in place. For example, seven years ago a company might have decided to keep a legacy materials management system they have, or an existing human resources system because they were adequate for the company's needs.

They have not been replaced because it was not worth the trouble or expense. Today, however, the old systems may not be able to scale to the company's projected size in three years. Similarly, restructurings that may have taken place over the past three years may have made the existing configuration of the ERP system problematic or obsolete, and evolving to the latest release while reconfiguring the system may make sense.

Integrating the financial systems of acquired businesses can be difficult and time consuming, but doing it early and doing it well is vital to smooth and successful business integration. Companies that have not integrated the financial systems of previous acquisitions should examine whether there are benefits to doing this and if so, they should deploy the latest release.

Companies planning to make acquisitions over the next year or two should seriously evaluate improving their ERP solutions today. Improvements to systems architecture and the underlying infrastructure that supports ERP solutions that have taken place may make it easier for the finance organization to execute a post-merger integration project. Having an ERP system in place that is more flexible and scalable to handle acquisitions may not be the number one reason for improving, but for growth-minded companies it should be a serious consideration.

Enhance Adaptability

Being able to respond to changes caused by acquisitions and other business discontinuities is another reason for evaluating changes to ERP solutions. Existing configurations of older technologies may be difficult and too brittle to alter rapidly and inexpensively. Making an ERP solution more adaptable to change is unlikely to be the only reason to improve existing software, and it may not be the top priority, but it is a potential benefit that competitive companies should not overlook.

Avoid Out-of-Support Software

One of the most compelling and understandable reasons for evolving an existing ERP system is that the vendor will no longer support the existing version. Not every company needs support for every piece of software it uses. For mature, stable software that is not critical to operations, or in cases where the company has the in-house capability to address user questions, upgrading may not be necessary. However, ERP solutions – particularly those designed for larger organizations – never fall into these categories. When support ends, we advise companies to switch to the latest release from their existing vendor or, if there are issues with the existing vendor (e.g., viability, vendor consolidation planned with another software supplier, etc.) to begin the migration process.

Consolidating ERP Systems

Consolidating software systems can reduce operating costs and make it easier to support some cross-functional operations if they must interact with multiple systems. There are three types of consolidation to consider:

- Single instance consolidation
- Vendor consolidation
- Functional consolidation

A “single instance” of an ERP system is a configuration in which all of a company's financial data exists in a single application. This becomes the sole source of operational data, which eliminates the need to combine information from multiple sources to produce a legal consolidation. This type of configuration has many potential benefits. It can cut the cost of operating the ERP system significantly, reduce the time to close the books, and it simplifies audit and control issues. In the 1990s, there was talk of single instance ERP but technology was in no way mature enough to make it a practical solution for larger companies.

There is renewed interest in the topic, partly because technology has matured to make it much more feasible than before. In the United States, the ability of single instance systems to facilitate audit and control has made this approach attractive to public companies complying with Sarbanes-Oxley.

Single instance consolidation may be more feasible than before, and we advise clients to investigate this option, particularly smaller companies that have homogenous business lines operating in single legal jurisdictions. However, other companies face many challenges on the way to implementing a single instance. Achieving a configuration (chart of accounts, business process support, etc.) that works across all divisions and units can be a major and persistent problem. Companies that acquire businesses, particularly if they are significant, will automatically lose the single instance until the new entity is consolidated.

We also caution that not all ERP vendors have systems that can be consolidated in a practical sense. Few vendors offer support for multiple languages in a single instance, can manage across time zones, or perform maintenance or do batch transactions when a company operates worldwide.

Instead of consolidating to a single instance, it may make a great deal of sense to pare down the number of instances, particularly if some business units are operating outdated systems from software companies where viability is (or shortly may become) an issue. All of the potential benefits (lower operating cost, easier consolidation, fewer audit and control issues, etc.) apply in this case. Only the scope of the consolidation is less sweeping.

Functional consolidation means taking disparate systems for ERP, human resources, supply chain, asset management, product development, etc., and combining them into a single system from a single vendor. Many software companies have added to the breadth and depth of their transactions systems. When companies initially purchased and deployed the financial and perhaps human capital elements, their vendor may not have had that capability, or it was so functionally light that it made sense to maintain the existing system or purchase one from another software supplier.

Today it may make sense to re-evaluate this decision. Benefits from functional consolidation are essentially the same as other forms of consolidation (particularly in reducing costs of maintenance and support of both software and hardware). Also, some business process changes that were too difficult to implement with disparate systems may become feasible.

Consolidating ERP

Pros:

- Save money
- Faster close
- Easier to audit

Cons:

- Too hard to harmonize
- Difficult, costly to maintain
- Investment not justified

Why Improve the IT Infrastructure

Companies that make a major change in their ERP software usually make changes to their IT infrastructure. Ventana Research finds that business executives often underestimate the importance of IT infrastructure and architecture to their system's ability to deliver the full business value of the software.

We recommend business executives look at the requirements and advantages of such a change as part of an ERP system evaluation. There are six main reasons why investments in the infrastructure supporting ERP solutions make sense:

1. Infrastructure performance improvements
2. Business process support
3. Lower operations and maintenance cost
4. Support new technologies
5. Adaptability
6. Recovery and continuity

Infrastructure Performance Requirements

Although the company's infrastructure supports the existing version of the software and might theoretically support the latest version, chances are that enhancements to an ERP system will put significant new demands on it in terms of the need for processing speed, the ability to handle many new users, and a significant increase in storage capacity. Improving infrastructure components may be necessary to have the new software operate at all, and in other cases, it often can enhance productivity significantly.

Business Process Support

Having the right IT infrastructure can make it feasible to support the enhanced business processes that a business intends to implement with an improved ERP system. Companies that do not have necessary components or have outdated infrastructure may not be able to support certain end-to-end business process enhancements, or IT performance may not be sufficient to make it useful.

Lower Operations and Maintenance Costs

There are several ways improving a company's infrastructure can lower the total cost of running a data center and supporting applications.

First, consolidating multiple systems from multiple vendors to cut the cost of supporting the many different types of servers, storage devices and so on used by an average company. In the past, some thought it was best to have separate servers for each production system in order to guarantee the necessary level of performance. Unfortunately, this led to complex systems with high maintenance and administration costs. When evolving an ERP system it may be possible to consolidate the infrastructure elements it needs to run on to cut these expenses.

Second, systems complexity makes the overall administration of the infrastructure more difficult to manage. Time is spent addressing issues that would not be arising in a more homogenous environment. Systems complexity also makes the infrastructure less adaptable to change, and can limit flexibility and scalability of the overall system.

Third, just as it is possible to run an ERP system using fewer “boxes,” the overall trend in infrastructure is to consolidate and share resources. Today, as the ability to integrate the components of the operating environment continues to increase, it makes sense to take a much broader, strategic view toward the make up of the hardware infrastructure. Rather than having to buy one CPU per application, increasingly multiple applications can run on the same server and conceivably can achieve significant increases in performance at a lower cost. Consolidation also makes implementing redundant systems more affordable, improving up time. Storage is evolving to a shared resource running on open standards rather than being a proprietary system attached to a single server.

Support New Technologies

In order to introduce Web and mobile capabilities in ERP systems, companies must have the infrastructure to support these new technologies. Some of the infrastructure may already be present, but opening up ERP systems to employees using mobile devices, and to employees and third parties using the Internet may require new capacity, capabilities, and security measures. For many companies it may be enough to add incrementally to their existing infrastructure; for others a more comprehensive evolution will be the right approach.

Adaptability

Just as it may be a good idea to change the ERP software to make the solution more adaptable to changing business conditions, one reason for transforming a company's IT infrastructure is to facilitate change. These alterations may be in the ERP software and its configuration to respond to business needs or changes in the business or regulatory environment. Or they may be to the infrastructure itself to make it more adaptable to an always-evolving technology landscape.

Recovery and Continuity

All companies must have a frequently tested disaster recovery plan in place. Not devoting sufficient resources to addressing negative contingencies jeopardizes the smooth functioning – and even survival – of a business.

Beyond being able to recover from fires, floods, malicious intrusions, and so on, is the issue of how fast the business can come back to its pre-disaster state. One of the important benefits of having a well-designed, streamlined IT infrastructure is it enables companies to recover faster.

Improve Infrastructure

- Cost savings
- ERP enhancement
- New technologies support
- IT performance
- Adaptability
- Recovery and continuity

Infrastructure Capabilities Needed to Support ERP

Businesses must examine what capabilities in their infrastructure they need to support their improved ERP solutions. This applies not just to the individual hardware components needed to support the incremental ERP investment, but how the overall configuration of their data centers will work going forward.

Ideally, corporations should have an IT infrastructure that supports adaptability. It should enable systems to evolve smoothly and efficiently. Achieving this sort of infrastructure begins with eliminating as much complexity in the systems through a standardization process. Limiting complexity and designing systems properly allows a company to employ its IT resources efficiently and with a high degree of availability. In this type of an IT environment it is possible to take advantage of newer infrastructure technologies (e.g., clustering, server blades, virtual partitioning, grid networking) to allocate computing resources with much greater flexibility. This increased flexibility can translate to much higher systems performance at a given price, or lower overall costs of the infrastructure. Because resources are shared and allocated as needed, fewer total resources are required. Since these systems tend to be more open and less proprietary, their lifecycle economics are more attractive.

Determine the Next Steps

Consider What Is Possible

A first step in the process is to consider what is possible. We have found a widespread lack of awareness of what is currently feasible with ERP systems. Companies are missing opportunities to automate a wide range of processes that consume a great deal of time of the employees in business units or in finance and administration. They believe it is impractical to implement Web services. They may have not even considered how to leverage wireless technology for their field sales and support teams. Finance staffs waste time across the entire accounting cycle on operations that should be performed solely by ERP software. Discounts for early payment go unearned because the accounts payable process is too cumbersome, and days sales outstanding are too high because systems that would accelerate receipts have not even been evaluated.

We advise our clients to assemble a team to create a "wish list" of ERP enhancements. The list would establish how each enhancement would have a business benefit and how to evaluate each benefit.

Consider the Resources Required

Once the team creates the list of ERP-driven enhancements, assign a cross-functional team consisting of line of business, finance, and IT to determine the resources required to achieve the business benefits with the ERP improvements. The resources consist of the employees required, outside consulting needed, license fees, and IT infrastructure changes. The reason for having a broadly based team work through this is to be sure that all parties completely understand the requirements. Often one group broadly states some requirements interpreted incorrectly by another. This can result in more expensive changes than necessary, falling short of what is required, or both. Having a dialog like this also can speed up implementation of the enhancements, increasing their value.

Think broadly about how to value cost/benefits

Building a business case helps organizations allocate scarce capital resources optimally. Throughout the Internet bubble years, there was a lack of discipline in IT spending. During the recent recession, companies wisely held spending in check. Often they funded only initiatives that could produce a full payback in 18 months or less. However, in evaluating ERP enhancements Ventana Research advises our clients to create and assess business cases from a broad perspective. Broader thinking means evaluating systems not just on costs, but also on all dimensions. These dimensions are:

- Systems effectiveness - the ability of the new infrastructure and software to support entirely new business processes, new software solutions such as Performance Management or enhanced management reporting, and so on
- Business efficiency - all of the cost savings that can be achieved as a result of the new system
- Business effectiveness - the benefits (typically higher revenues, greater competitiveness, improved customer satisfaction) that the company will be able to achieve with the investment
- Total cost of ownership (TCO) - the lifetime costs associated with the acquisition, installation, operation, support and maintenance of the entire system

Constructing the Business Case

Business cases are easiest to construct when entirely driven by cost or output because these benefits are easiest to measure and the most concrete. Systems that manage IT assets and lead to reduced headcount or avoidance is a good example.

IT projects like enhancing an ERP system, however, are a bit more complicated because they have a range of objectives, only some of which are easily quantifiable. Benefits range from a direct reduction of operating costs to process improvements that either will improve the company's competitive position, reduce costs, or both. Some of the benefits of updating an ERP system relate to Performance Management enhancements. While these benefits ultimately are tangible, the payoffs from closer alignment of individual and strategic objectives, better decision making, and so forth, are very difficult to quantify.

In constructing or evaluating a business case for software or IT infrastructure enhancements, it is important to evaluate the costs and benefits as a replacement system. Historically, IT investments were new and additive. Companies evaluated each as a stand-alone project. However, improvements to ERP software and the underlying IT infrastructure should be evaluated in terms of "replace today vs. replace tomorrow." It is similar to the approach a company would take in deciding whether to replace an existing manufacturing plant with a new one, or replacing certain machine tools with newer ones.

Business cases for asset replacements come down to assessing the benefits and costs of acting today versus waiting. The incremental cost is the time value of the money expended sooner rather than later; the incremental benefit is the value of receiving higher revenues or achieving lower operating costs earlier. Over a long period, this might not make a difference, but it is important at two points in the business cycle: during a downturn and at the start of a new business cycle. In a downturn, conserving liquidity is extremely important so companies postpone most projects that might make sense during a good economy. Conversely, companies should accelerate some replacement projects at the start of a business cycle because it will enable them to achieve greater benefits over the course of the expansion.