

IS5WHERP

Compiled from various sources, including CIO, personal interaction with ERP professionals and summarized by Vikram Atwal, Vyteq

Based on research from numerous articles and other resources and personal talks with leading IT professionals, we have designed this article to evaluate the following:

IS ERP necessary? What is ERP? Why should it be implemented? When should it be implemented? Where should the implementation be done? Who should do it? And How to make it a success?

Executive Summary?

1. ERP absolutely helps in reducing company costs, increasing efficiencies, time to product or market, and manage many or all functions collaboratively.
2. However since each company is a unique entity having its proprietary systems and ways of doing business, it is critical that ERP should be tailored and flexible to fit a company, and not the other way round, where a company changes its business process to fit the ERP.
3. Ensure that not only the upper management, but also the middle management and base users are equally motivated and part of the process.
4. It is critical to plan, map the company process, and calculate the ROI, of a certain system, and also evaluate the other sites the system is working at, before starting a ERP project.

Organizations today confront new markets, new competition and increasing customer expectations. Thus today's organizations have to constantly re-engineer their business practices and procedures to be more and more responsive to customers and competition. In the 1990's Information technology and Business Process re-engineering, used in conjunction with each other, have emerged as important tools which give organizations the leading edge. The efficiency of an enterprise depends on the quick flow of information across the complete supply chain i.e. from the customer to manufacturers to supplier. ERP (Enterprise resource planning) systems, have been a major information technology that has been used by businesses today, in hopes of gaining a competitive advantage. But this advantage seems only plausible if the implementation is coupled with process re-engineering, as well.

ERP is an enterprise wide system that integrates primary business applications, including all areas and levels of an organization. All the applications in an ERP suite share a common set of data that is stored in a central database. It aims to serve as a backbone for your whole computing business, integrating key business and management processes to provide a sky-level view of much of what's going on in your organization. A typical ERP system provides applications for accounting and controlling, production and materials management, quality management, plant maintenance, sales and distribution, human resources, and project management.

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In the 1990s, most companies have experienced business process re-engineering and implemented ERP or other packaged software. **ERP is difficult to implement. Often, firms adapt their business processes to the ERP system, rather than the other way around. This translates to using business processes similar to those of competitors and losing competitive advantage.** Moreover, ERP systems only address the needs of part of the enterprise, creating islands of automation and a need for integration that requires considerable effort. A typical ERP system gives you an 80% solution. You must still implement the remaining 20% to fit your enterprise needs. In the end, you will pay more for customizing this last 20% than for the entire ERP application. It is not unusual for companies to spend millions of dollars to implement an ERP system. ERP requires the re-engineering of a company's process and culture. With solutions like SAP you must change your operations and processes to match the logic of the ERP package. ERP must be integrated with the rest of the IS environment. They must build the infrastructure that ties their new ERP package with their existing mainframes, DBMSs, data warehouses, Web servers, and email systems.

Thus a proper implementation of the system will provide a competitive advantage, based on the company integrating the system with its own processes to make it unique, and the cost and time put in will be offset by the benefits of the system. The first step in a successful implementation project is gaining a solid understanding of ERP systems and benefits in relation to your own business expectations. Now it is up to the company to take the implementation to the extent of fitting in with their business processes. Many competitors will have an ERP system but it is useless if it is not integrated with the company's business processes. Its like any tool, you must know how to utilize it for it to be an asset, but first you must evaluate the tool to see if it will fit in with your business, **as every business is unique.** Some important points to be kept in mind while evaluating an ERP software include:

- 1) Functional fit with the Company's business processes
- 2) Degree of integration between the various components of the ERP system
- 3) Flexibility and scalability
- 4) Complexity; user friendliness
- 5) Quick implementation; shortened ROI period
- 6) Ability to support multi-site planning and control
- 7) Technology; client/server capabilities, database independence, security
- 8) Availability of regular upgrades
- 9) Amount of customization required
- 10) Local support infrastructure
- 11) Availability of reference sites
- 12) Total costs, including cost of license, training, implementation, maintenance, customization and hardware requirements.

There are many ways that an ERP system can help an organization if used right. **First, an organization's operating costs can be reduced.** An ERP system integrates all parts of an organization so that it has more control of its operation. Also, an ERP system **increases the organization's time efficiency.** Since all the parts are now connected and integrated with each other within an ERP system, people use less time to perform tasks. Moreover, people now have **more and faster access to their information, which improves the time and resources for decision making.** For now, having an ERP system means increased information availability for the organization that means that the organization can access information quickly and easily. Furthermore, organizations often have different types of software integrated within them. An ERP system consolidates all the software into a simple system. Software consolidation is another main advantage of an ERP system.

Not only does an ERP help organizations to manage their tasks more efficiently, it also provides advantages to some specific industries. For the manufacturing industry, an ERP system provides better delivery service for the organization. Also, an ERP system shortens the total throughput time for the organization to do tasks in process of operation. For distribution industry, workers can now keep track of inventory and online tracking system is used to take care of all those routine work that organization used to do. For the transportation industry, an ERP system allows them to do online dispatch system. Also, managers can keep track of their truck drivers and know whether or not their employees are doing their jobs. They have something called a GPS- Global Positioning System to point out all the positions of the employees in transportation industries. Also, one more industry which gains specific advantages from using ERP systems is the project services industry. An ERP system helps these companies to automate many services and reduce the time to make reports since more information is quickly available through the ERP system.

The benefits accruing to any business enterprise on account of implementing are unlimited. According to the companies like NIKE, DHL, Tektronix, Fujitsu, Millipore, Sun Microsystems, following are some of the benefits they achieved by implementing ERP packages:

Gives Accounts Payable personnel increased control of invoicing and payment processing and thereby boosting their productivity and eliminating their reliance on computer personnel for these operations.

- Reduce paper documents by providing on-line formats for quickly entering and retrieving information.
- Improves timeliness of information by permitting, posting daily instead of monthly.
- Greater accuracy of information with detailed content, better presentation, fully satisfactory for the Auditors.
- Improved Cost Control
- Faster response and follow up on customers
- More efficient cash collection, say, material reduction in delay in payments by customers.
- Better monitoring and quicker resolution of queries.
- Enables quick response to change in business operations and market conditions.
- Helps to achieve competitive advantage by improving its business process.
- Improves supply-demand linkage with remote locations and branches in different countries.
- Provides a unified customer database usable by all applications.

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- Improves International operations by supporting a variety of tax structures, invoicing schemes, multiple currencies, multiple period accounting and languages.
- Improves information access and management throughout the enterprise.

Provides solution for problems like Y2K and Single Monetary Unit (SMU) or Euro Currency.

Although there are many advantages of an ERP system, there are still some disadvantages among these systems. For example, cost is a very important issue for an organization to consider when implementing an ERP system. The high costs of setting up an ERP system are so prohibitive that it would be out of reach for some small businesses. Also, another disadvantage would be the privacy within an ERP system? That is, who has the access to the system and who can change the information within the system. These are many of the questions asked about for the matter of privacy of an ERP system. Moreover, for a business, time is also a valuable resource. Since an ERP system does not take a short time to implement in an organization, it may slow down the routine operating works within organizations. Finally, there may also be a mirror disadvantage for employees, since an ERP system automates many routine tasks that use to be taken by people. Now, there may be a problem for those who have not been trained to have the skills to do certain tasks with the ERP system. This is a problem which affects an organization as a whole and can be addressed by implementing employee retraining programs.

ERP systems don't just give you a competitive advantage. Instead you must integrate the system to meet your needs. To **compete effectively, you must create custom-built systems, with your business processes**. Nevertheless, implementing an ERP system does take a lot of effort and resources in order to achieve success. In fact, the advantages sure do overcome its disadvantages. In the future, more and more business will be using ERP system to help them manage important parts of their business. ERP software is complex and expensive. Companies must devote significant human resources to ERP projects and often hire consultants or systems integrators to help implement the systems. As a result, the company can spend millions of dollars and several years on ERP projects.

ERP systems are great for automating well-understood functions and processes. An ERP system helps you offload the development and maintenance of the more mundane IS functions. In theory, this gives you more time to focus on the cutting-edge, bet-your-company applications. It forms the critical backbone of E-commerce, but companies must look beyond implementing an ERP solution if they really want to build value and sustain their competitive advantage. Although implementing ERP suites can improve and update corporate resource management, managers must also be aware of the challenges involved in an ERP project. Even small ERP projects can cost millions of dollars. Nevertheless, the payback is high: ERP systems can provide companies the reliable, integrated data infrastructure they need to more easily access corporate data and, consequently, manage their business more effectively. Companies must plan their ERP implementations carefully and devote adequate resources to the projects to gain the most benefits from their investments and ensure the systems are installed within their planned schedule and budget

The idea behind ERP is that the software needs to communicate across all parts of the business. With an ERP system, the financial software can cut an accounts payable check as soon as the loading dock clerk confirms that the goods have been received in inventory. Similarly the accounts receivable module can generate an invoice as soon as the shipping clerk says the finished goods are on the truck to the customer. All this is done with a minimum of human intervention and paperwork. ERP aims to replicate business processes (how do we record a sale, how do we verify hourly workers' paychecks) in software, guide the employees responsible for those services processes through them step by step and automate as many procedures as desired. Sounds great. Is there a downside? Only if you consider multimillion-dollar project failures a downside.

The promise of ERP is great but so is the expense in terms of time, effort and money. Implementing the software in a company usually involves changing business processes, that is, the way people do their jobs. So employee resistance to these changes can be a major thorn in a company's side and usually requires that executives hone their change management skills. With careful planning and lots of elbow grease, though, ERP can work and make many an enterprise work better. The success of an ERP solution also depends on how quick the benefits can be reaped from it. This necessitates rapid implementations which lead to shortened ROI periods.

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It's critical for companies to figure out if their ways of doing business will fit within a standard ERP package before the checks are signed and the implementation begins. The most common reason that companies walk away from multimillion dollar ERP projects is that they discover that the software does not support one of their important business processes. At that point there are two things they can do: They can change the business process to accommodate the software, which will mean deep changes in long-established ways of doing business (that often provide competitive advantage) and shake up important peoples' roles and responsibilities (something that few companies have the stomach for). Or they can modify the software to fit the process, which will slow down the project, introduce dangerous bugs into the system and make upgrading the software to the ERP vendor's next release excruciatingly difficult, because the customizations will need to be torn apart and rewritten to fit with the new version.

ERP users can gain competitive advantage from the way they implement the systems and exploit the resulting data. Also, users say the systems can make them more nimble in the marketplace than companies with hard-to-change custom programs. ERP systems are business tools, said Jim Shepherd, an analyst at Advanced Manufacturing Research, Inc., in Boston. "They are tremendously advantageous in the hands of someone who knows what to do with them, but they can be dangerous in the hands of someone who doesn't." Users find that the biggest gain from ERP packages is that they force a company to institute a proven set of business processes, rather than reinvent the wheel. "One of the big advantages of packaged applications is that as the state of the art moves, you move with it," said Martin Richie, director of the ERP competence center at Boeing Commercial Airplane Group, in Seattle. ERP systems also allow users to turn on and off functionality as needed to adapt quickly to changes in their business, where a customized application has to be rebuilt. What these applications do is capture data about historical activity, current operations and future plans, and organize that in a way people can use. When you look at the flexibility in big ERP systems, once implemented, they can look entirely different from one organization to another, a set of building blocks, and it's how you put those building blocks together that gives you an advantage.

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