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What is ERP?

ERP stands for Enterprise Resource Planning. ERP is a way to integrate the data and processes of an organization into one single system. Usually ERP systems will have many components including hardware and software, in order to achieve integration, most ERP systems use a unified database to store data for various functions found throughout the organization.

The term ERP originally referred to how a large organization planned to use organizational wide resources. In the past, ERP systems were used in larger more industrial types of companies. However, the use of ERP has changed and is extremely comprehensive, today the term can refer to any type of company, no matter what industry it falls in. In fact, ERP systems are used in almost any type of organization - large or small.

In order for a software system to be considered ERP, it must provide an organization with functionality for two or more systems. While some ERP packages exist that only cover two functions for an organization (QuickBooks: Payroll & Accounting), most ERP systems cover several functions.

Today's ERP systems can cover a wide range of functions and integrate them into one unified database. For instance, functions such as Human Resources, Supply Chain Management, Customer Relations Management, Financials, Manufacturing functions and Warehouse Management functions were all once stand alone software applications, usually housed with their own database and network, today, they can all fit under one umbrella - the ERP system.

Integration is Key to ERP

Integration is an extremely important part to ERP's. ERP's main goal is to integrate data and processes from all areas of an organization and unify it for easy access and work flow. ERP's usually accomplish integration by creating one single database that employs multiple software modules providing different areas of an organization with various business functions.

Although the ideal configuration would be one ERP system for an entire organization, many larger organizations usually create an ERP system and then build upon the system and external interface for other stand alone systems which might be more powerful and perform better in fulfilling an organization's needs. Usually this type of configuration can be time consuming and does require lots of labor hours.



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The Ideal ERP System

An ideal ERP system is when a single database is utilized and contains all data for various software modules. These software modules can include:

Manufacturing: Some of the functions include; engineering, capacity, workflow management, quality control, bills of material, manufacturing process, etc.

Financials: Accounts payable, accounts receivable, fixed assets, general ledger and cash management, etc.

Human Resources: Benefits, training, payroll, time and attendance, etc

Supply Chain Management: Inventory, supply chain planning, supplier scheduling, claim processing, order entry, purchasing, etc.

Projects: Costing, billing, activity management, time and expense, etc.

Customer Relationship Management: sales and marketing, service, commissions, customer contact, calls center support, etc.

Data Warehouse: Usually this is a module that can be accessed by an organizations customers, suppliers and employees.

ERP Improves Productivity

Before ERP systems, each department in an organization would most likely have their own computer system, data and database. Unfortunately, many of these systems would not be able to communicate with one another or need to store or rewrite data to make it possible for cross computer system communication. For instance, the financials of a company were on a separate computer system than the HR system, making it more intensive and complicated to process certain functions.

Once an ERP system is in place, usually all aspects of an organization can work in harmony instead of every single system needing to be compatible with each other. For large organizations, increased productivity and less types of software are a result.

Implementation of an ERP System

Implementing an ERP system is not an easy task to achieve, in fact it takes lots of planning, consulting and in most cases 3 months to 1 year +. ERP systems are extraordinary wide in scope and for many larger organizations can be extremely complex. Implementing an ERP system will ultimately require significant changes on staff and work practices. While it may seem reasonable for an in house IT staff to head the project, it is widely advised that ERP implementation consultants be used, due to the fact that consultants are usually more cost effective and are specifically trained in implementing these types of systems.



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One of the most important traits that an organization should have when implementing an ERP system is ownership of the project. Because so many changes take place and its broad effect on almost every individual in the organization, it is important to make sure that everyone is on board and will help make the project and using the new ERP system a success.

Usually organizations use ERP vendors or consulting companies to implement their customized ERP system. There are three types of professional services that are provided when implementing an ERP system, they are Consulting, Customization and Support.

Consulting Services - usually consulting services are responsible for the initial stages of ERP implementation, they help an organization go live with their new system, with product training, workflow, improve ERP's use in the specific organization, etc.

Customization Services - Customization services work by extending the use of the new ERP system or changing its use by creating customized interfaces and/or underlying application code. While ERP systems are made for many core routines, there are still some needs that need to be built or customized for an organization.

Support Services- Support services include both support and maintenance of ERP systems. For instance, trouble shooting and assistance with ERP issues.

Advantages of ERP Systems

There are many advantages of implementing an ERP system; here are a few of them:

- A totally integrated system
- The ability to streamline different processes and workflows
- The ability to easily share data across various departments in an organization
- Improved efficiency and productivity levels
- Better tracking and forecasting
- Lower costs
- Improved customer service

Disadvantages of ERP Systems

While advantages usually outweigh disadvantages for most organizations implementing an ERP system, here are some of the most common obstacles experienced:

Usually many obstacles can be prevented if adequate investment is made and adequate training is involved, however, success does depend on skills and the experience of the workforce to quickly adapt to the new system.

- Customization in many situations is limited
- The need to reengineer business processes
- ERP systems can be cost prohibitive to install and run
- Technical support can be shoddy
- ERP's may be too rigid for specific organizations that are either new or want to move in a new direction in the near future.