Enterprise Resource Planning

Concept of ERP

The term ERP was coined in 1990 by Gartner, but its roots date to the 1960s. Back then, the concept applied to inventory management and control in the manufacturing sector. Software engineers created programs to monitor inventory, reconcile balances, and report on status. By the 1970s, this had evolved into Material Requirements Planning (MRP) systems for scheduling production processes.

In the 1980s, MRP grew to encompass more manufacturing processes, prompting many to call it MRP-II or Manufacturing Resource Planning. By 1990, these systems had expanded beyond inventory control and other operational processes to other back-office functions like accounting and human resources, setting the stage for ERP as we've come to know it.

Today, ERP has expanded to encompass business intelligence (BI) while also handling "front-office" functions such as sales force automation (SFA), marketing automation and ecommerce. With these product advancements and the success stories coming out of these systems, companies in a broad range of industries—from wholesale distribution to ecommerce—use ERP solutions.

Moreover, even though the "e" in ERP stands for "enterprise," high-growth and mid-size companies are now rapidly adopting ERP systems. Software-as-a-Service (SaaS) solutions—also referred to as "cloud computing"—have helped fuel this growth. Cloud-based solutions not only make ERP software more affordable, they also make these systems easier to implement and

manage. Perhaps even more importantly, cloud ERP enables *real-time* reporting and BI, making them even valuable to executives and staff seeking visibility into the business.

As a result, companies of all sizes and a wide range of industries are transitioning to cloud ERP systems. In fact, Forrester predicts that SaaS-based ERP adoption will rise 21 percent annually through 2015. When you stop to consider the benefits of ERP, it's easy to see why it's become so popular and why its use will continue to grow so rapidly.

Enterprise resource planning (ERP) is defined as the ability to deliver an integrated suite of business applications. ERP tools share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, HR, distribution, manufacturing, service and the supply chain.

ERP applications automate and support a range of administrative and operational business processes across multiple industries, including line of business, customer-facing, administrative and the asset management aspects of an enterprise. ERP deployments are complex and expensive endeavors, and some organizations struggle to define the business benefits.

Look for business benefits in four areas: a catalyst for business innovation, a platform for business process efficiency, a vehicle for process standardization, and IT cost savings. Most enterprises focus on the last two areas, because they are the easiest to quantify; however, the first two areas often have the most significant impact on the enterprise.

ERP applications also allow the different departments to communicate and share information more easily with the rest of the company. It collects information about the activity and state of different divisions, making this information available to other parts, where it can be used productively.

ERP applications can help a corporation become more self-aware by linking information about the production, finance, distribution, and human resources together. Because it connects different technologies used by each part of a business, an ERP application can eliminate costly duplicate and incompatible technology. The process often integrates accounts payable, stock control systems, order-monitoring systems, and customer databases into one system.

Features of ERP

1. Flexibility: An ERP system should be flexible to respond to the changing needs of an enterprise. The client server technology enables ERP to run across various database back ends through Open Database Connectivity (ODBC).

2. Modular & Open: ERP system has to have open system architecture. This means that any module can be interfaced or detached whenever required without affecting the other modules. It

should support multiple hardware platforms for the companies having heterogeneous collection of systems. It must support some third party add-ons also.

3. Comprehensive: It should be able to support variety of organizational functions and must be suitable for a wide range of business organizations.

4. Beyond The Company: It should not be confined to the organizational boundaries, rather support the on-line connectivity to the other business entities of the organization.

5. Best Business Practices: It must have a collection of the best business processes applicable worldwide. An ERP package imposes its own logic on a company's strategy, culture and organization.

Benefits of ERP

Benefits of implementing ERP software include the following:

- **Efficiency:** The number one goal of implementing ERP software is to boost efficiency. ERP software eliminates repetitive processes and great reduce the need to manually enter information. The software is also able to streamline business processes and make it easier and more efficient for companies to collect data, no matter what department they're working in.

- **Forecasting:** Enterprise resource planning software gives users, and most importantly managers, the tools and resources needed in order to create more accurate forecasts. Since the information within ERP is as accurate as possible, businesses can make realistic estimates and much more efficient/effective forecasts.

- **Productivity:** ERP software will save you time through productivity enhancement. Through having redundant processes automated, individuals will have more time to work on other important projects and tasks. They also will be able to work easier since the solution was designed for easy use.

- **Flexibility:** Modern-day ERP softwares are robust and flexible. They are not a one-size- fits all, but they can be tailored to the unique needs of a manufacturing operation. ERP software is also able to adapt to the changing needs of a growing business, eliminating the need to purchase a new solution once your business changes.

- **Collaboration:** Collaboration is another one of the main benefits of utilizing ERP software. Collaboration between departments is a crucial and important aspect of a manufacturing operation and allows for much more thorough visibility. With data being entered into ERP

systems being centralized and consistent, there is not much reason for why departments would not be able to work together.

- **Scalability:** Structured ERP software enables the addition of new users and functions to grow the initially implemented solution over time. When a business is ready to grow and continue to build, enterprise resource planning software will aid in facilitating the growth.

- **Cost Elimination:** ERP software reduces administration and operations costs through the utilization of accurate and real-time information. It allows manufacturers to manage operations, prevent delays within production, and break up information, ultimately enabling managers to make decisions much more quickly and efficiently.

- **Mobility:** Some ERP softwares grant you access to a centralized database that allows you to work from home, the office, or wherever you wish.

- **Competition:** While ERP software is expensive and a substantial investment, it is actually more costly to not purchase the software. While there are manufacturers that are seeking to stick to methods of the past, this has put them a bit beneath the competition. ERP has technological advancements that greatly aid production efficiency and productivity.

- **Integrated Information:** No more issues with data spread across separate databases since all information will be inserted into a single location. This means that you can integrate platforms such as CRM software with an ERP system, which keeps data consistent, accurate, and unique.

Applications of ERP

Retail

The face of retail is sales and payment. Behind the scenes, inventory management and tracking, shipping, and marketing create the backbone. Clothes, cars, and food all follow the same basic principles and require very similar functionality.

By utilizing an order management system, orders can be coordinated across multiple stores while advanced pricing allows for management of sales and numbers that can be sorted through various hierarchies. Orders can also be tracked based on stock and non-stock items, recurring orders, and real-time updates to inventory.

Manufacturing

Providing goods to the retail scene are the manufacturers. Of many types and sizes, all work very similarly in their need to maintain competitiveness through integration of all facilities. Once

integrated, ERP software can be used to track the financial portion through product costing and manufacturing accounting (essential for tracking work orders and shop floor transactions).

It also can be used the track the shop floor through work order processing and managing project data. With all of this information connected and organized across multiple facilities, ERP software increases productivity by decreasing information errors.

Farming

Growing crops is stressful in its own right as a lot of it heavily relies on the weather. On top of that, there are acres of land more than likely growing numerous types of food. ERP software provides an organizational solution for tracking and planning. Grower management tracks information on the specific blocks of land, harvest details, and crop maturation.

This is then saved to provide historical information at a later date to help forecast earning potential. Contracts can also be tracked, noting, the quality agreed upon, renewal dates, and any amendments to the contract.

Real estate management

ERP solutions for Real Estate management efficiently streamlines construction and management of industrial and commercial real estate. The recent JD Edwards upgrade provides improvements to their Real Estate Management ERP platform. Not only is real estate management important for the construction of properties, but as well as the building management proceeding its construction.

Serving as a landlord may seem like an ideal job to external viewers, but the stresses they incur having to keep up with their various tenants' problems is immense. Not only do they have to track rent payments, they also attend to any calls about disturbances or maintenance issues.

To ease the pressure to organize such a vast amount of information, real estate management in ERP software is lease-based and creates recurring bills (i.e. rent), rent projections for coming years, and processes revenue.

Planning and Scheduling

Global Shop Solutions Advanced Planning and Scheduling (APS) application is the best solution for staying on top of every job in real time. This application enables your manufacturing team to accurately view and schedule shop resources, outside processes and material requirements while estimating lead times for jobs, allowing you to better serve your customers. The simple and intuitive design gives you access to the information you need to get every job done on-time and on-budget for the highest levels of efficiency and productivity.

Electronic Data Interchange

Meet the technology expectations of your manufacturing customers with single-entry data using Electronic Data Interchange (EDI) technology. EDI sets you above the competition by offering your manufacturing customers the simplicity and accuracy of EDI transactions. It saves administrative time and costs for both you and your customers within a secure, trusted environment.

Materials/Inventory Management

Staying on top of your material inventory and costs is crucial to meeting your manufacturing production goals and customer order deadlines. Global Shop Solutions Materials and Inventory Solutions have the capability to track every aspect of your material needs, from detailed inventory data to bill of material (130M) cost buildups, all from one integrated program. All the functions you need to achieve perfect physical inventory, while managing costs, in one innovative system.

Project Management

Global Shop Solutions ERP software Project Management application combines all the data and parameters you need to effectively manage multiple, complex manufacturing projects over extended periods. From managing project budgets by phase or project group to calculating actual vs. estimated costs, the Project management application allows your management team to keep a firm handle on all project tasks and costs to maximize the revenue outcome.

Sales Management

To monitor the entire sales funnel in your manufacturing business, you need real-time, comprehensive information. Global Shop Solutions ERP software takes management of the manufacturing sales process to a new level. From detailed real-time custom reporting and sales analysis to overseeing shipping and simplified sales ordering, this is the ultimate in sales management tools. In one integrated system, our Sales Solutions allow you to manage customer service, sales orders, shipping, bookings reports, UPS™/FedEx ™ integration and many other sales components.

MOBILE Management

Global Shop Solutions allows your shop floor to go paperless with GS Mobile. This product redefines the entire materials management process by utilizing the latest in barcode scanning, handheld printing and mobile technologies, including Android and Windows mobile/embedded. From physical inventory to shipments, purchase order receipts, inventory transfers and more, GS Mobile wireless technology gives you unprecedented speed, visibility and control.