**UNIT – V**

**What Is Enterprise Resource Planning (ERP)?**

Enterprise resource planning (ERP) is a process used by companies to manage and integrate the important parts of their businesses. Many ERP software applications are important to companies because they help them implement resource planning by integrating all of the processes needed to run their companies with a single system. An ERP software system can also integrate planning, purchasing inventory, sales, marketing, finance, human resources, and more.

**BUSINESS TRANSFORMATION THROUGH ERP SYSTEMS**

Here are a few ways an organization can accomplish this transition or transformation.

* *Approach* the project as a new start – not a “lift and shift.”
* *Prepare* teams to answer the question “Why not?” and use best practices.
* *Focus* on the outcome of the process.
* *Utilize* the technology of the new system to transition overall requirements and remaining manual processes to well-designed, automated workflows.
* *Prepare* for and rely on change management expertise. Everyone appears to want change until they’re asked to make the change themselves.
* *Be ready* to think creativity by leaning into the designs and capabilities of these new, emerging technologies.

### **Benefits of implementing an ERP Software:**

#### **1. Competition**

It’s fact that ERP software requires a major investment, but there’s also an even bigger cost in not making the investment. While some manufacturers choose to stick to the tried and true traditional methods, others seek technological solutions.  Manufacturers cannot afford to put off an ERP package implementation while their competition invests in ERP and starts achieving the many benefits we’ll touch on below.

#### **2. Efficiency**

An ERP solution eliminates many repetitive processes and greatly reduces the need to manually enter information. This system will also streamline business processes and make it easier and more efficient for companies to collect data, no matter what department they’re working in.

#### **3. Forecasting**

Enterprise resource planning software gives to users, and especially managers, the tools they need to create more accurate forecasts in business activities. The information within ERP is as accurate as possible, businesses can make realistic estimates and more effective forecasts.

#### **4. Collaboration**

Nobody wants to run a business with each department functioning separate from the other. Collaboration between departments is a crucial task and often necessary part of the business processes. With the data entered into ERP systems being centralized and consistent, there is no reason why departments cannot work together. The ERP Package also touches on almost every aspect of a business, thus naturally encouraging collaborative efforts.

#### **5. Scalability**

A Structured ERP system allows the addition of new users and functions to grow the initially implemented solution over time. When your business is ready to grow or needs extra resources, enterprise resource planning software should be able to facilitate that growth.

#### **6. Integrated Information**

No more issues with data spread across separate servers; all information will be housed at a single location. We can integrate platforms like CRM software with the ERP system, keeping data consistent, accurate, and unique. ERP facilitates Know your customer, their orders, and your inventory, all in one place.

#### **7. Cost Savings**

With one source of accurate, real-time information, ERP software reduces operational costs. It allows [manufacturers](https://www.toppr.com/guides/geography/manufacturing-industries/what-are-manufacturing-industries/) to proactively manage its operations, prevents disruptions and delays, breaks up information.

### **ERP life cycle Phases**

 **ERP Roll out:** The initial roll out of an ERP system itself consists of various phases commencing with Request for Proposal (RFP) and vendor selection and ending with go live and hand holding phase. Some important matter concerning this phase, as given below, will have direct bearing on subsequent phases of ERP lifecycle:

* Degree of matching of vanila ERP product to current business need and extent of customization done, particularly source code customization.
* Commitment of the vendor for future development and their financial health
* Support issues including License fees and escalation thereof.

 **Optimization:** After the system is live and rolled out, there will be a period of turmoil. Due to lack of understanding, a lot pf confusion will prevail amongst users. There will be teething problems and some software bugs will invariably appear. With retraining, some tweaking of the system and assistance from a responsive help desk, this phase should be over within six months to one year and the system should start stabilzing.

 **Maintenance:** This is the longest period of life cycle, when the organization start realizing value of their investment. Users will get familiar and start owning the system. Some changes will be continuing such as new reports, different workflows, some localisation on taxes etc. Maintenance will be covered by service level agreement, entailing payment of license fee to the vendor. For a complicated system, there may be a third party vendor, helping maintenance at site. The license fee, due to provision of escalation, gets escalated at regular intervals and after some years, adversely effects Total Cost of Ownership (TCO).

 **Extending Values:** This phase overlap with the phase of maintenance. New or changed business processes necessiate minor or moderate changes in the system. There may be extensive changes under scenario such as i) implementing a new accounting system e.g. International Finance Reporting standard (IFRS) ii) A new regulatory requirement like Sarbanes=Oxley iii) Margers and acquisations/ restructuring.iv) Extending the system with add on poducts suchy as Customer Relationship Management and Business Intelligence (BI). Sometime the cost changes may be prohibitive, particularly for systems where a lot of customization has been done during implementation phase.

Parallel to business changes, technological changes also occur. New release and versions appear for underlaying technologiocal platforms like Operating System and Data Base. ERP vendors release patches and versions of their producdts at regular intervals which needed to be incorporated in the existing system. This usually involves minor or modeate efforts. But, problem arises where many softwae objects were customized during implementation. Retrofitting these objects for making them compatiable with later versions, may turn out to be a major migration exercise involving exorbitant cost and effort.

 **Decaying Performance:** For an enterprise, business need and technological requirement, continue to evolve. Cost, Complexity and difficulty to modify and update the existing system mount. Fixing existing system is no more viable and provides diminishing return. Alternatives are investigated and decision of reimplementation is taken.

 **Reimplementation:** Similar to Roll Out phase as mentioned above. However, the organizations are better organized now. Initial process will be carried out more professionally. It is likely that they will adopt more of a vanilla version with minimum need of customization, so that the next cycle gives a better Return on Investment (ROI).

## ERP Evaluation Criteria

Your ERP software should meet most or the following criteria, depending on your organizational needs:

### Customer Relationship/Account Management

Ensure that the CRM module lets users view customers across a wide range of custom views including products, geography, account type and more. An effective CRM Module should also allow ease of access to necessary ERP information on any device at any time.

### Accounts Payable Reporting

Good ERP systems will provide your AP team with sufficient reporting so that collections is more efficient and account aging is easier to assess.

### Bank Reconciliation

Your potential ERP solution needs a Bank Reconciliation feature to help your organization reconcile bank statement balances with the General Ledger cash accounts amount.

### Benefits Administration

Your ERP needs a system for to manage and track participation in benefits programs, including insurance, compensation, profit sharing and retirement programs.

### CRP (Capacity Requirements Planning)

If you need to determine the resources required to meet production requirements, a CRP module is essential within your ERP.

### MRP (Material Requirements Planning)

Some organizations require production planning, scheduling, and an inventory control system. If this is part of your requirements as well, check that the ERPs you are evaluating include this module.

### BOM (Bill Of Materials)

Do you need to use bills of material when creating production orders to manufacture products? If so, be sure this feature is built into whatever ERP you are considering.

### Logistics Management

Since logistics management is essential to all of your organization’s planning and execution, having logistics management in your ERP is a core feature. I don’t think an ERP qualifies without logistics management as an integral feature.

### BI (Business Intelligence)

We’ve touched on [business intelligence requirements](https://www.selecthub.com/business-intelligence/top-business-intelligence-requirements/) before – with many of the [top BI solutions](https://www.selecthub.com/business-intelligence-tools/) being stand alone products. However, BI can also be part of your ERP as well. It’s a matter of organizational preference whether you harness the BI tools in your ERP or select a stand-alone, best in class BI tool.

### Email Tools

Email tools come in many different platforms. Being part of [essential CRM requirements](https://www.selecthub.com/customer-relationship-management/crm-requirements-checklist-and-downloadable-template/), you’ll likely already have them if you’ve deployed a separate CRM. However, if your ERP is also your core CRM (as listed above), make sure that robust email tools are part of the product feature set.

### B2C Commerce

Here again is a choice of organizational preference whether your ERP acts as your point of commerce or you select a stand-alone commerce platform.

### Advanced Allocations

If you want help improving overall efficiency, accuracy of financial reporting, and shortening close cycles, having advanced allocations functionality in your ERP is critical.

### Tax Administration: Payroll & Tax Filing

You need a tax administration technology as a core part of your ERP solution as it inherently saves your finance team substantial time, money and effort.

### Engineering Change Management

Managing your products and manufacturing and business processes is a fundamental and continual challenge your organization likely faces. Having a solid ECM component ensures that challenge is most effectively handled. The solution should have ECM with central logistics functions that can be used to change various aspects of production basic data depending on specific conditions.

### Customer Credit Management

Your ERP software needs to report customer’s credit standing for any time period and be able to monitor ongoing sales activity for customers designated as needing credit hold evaluation for sales.

### Available-To-Promise (ATP)

ATP software module gives manufacturers better visibility into completion through all levels and across the entire supply chain. This may functionality may be optional to your organization but is something many organizations need to have come standard in their ERP.

### Advanced Planning System (APS)

You need to track costs based on the activities that are responsible for driving costs in the production of manufactured goods using APS. It should also be able allocate raw materials and production capacity optimally to balance demand and plant capacity.

### Lean Manufacturing

If in manufacturing, you need tools that support lean manufacturing and flow scheduling practices for production, replenishment and inventory.

### Business Process Management (BPM)

Business Process Management Software will provide the capability to automate virtually any business process. This is vital to your ERP system and selection.

### Flexible Network Design

A flexible network design can increase the efficiency and scalability of a supply chain module and is generally a critical and included element of any top ERP selection.

### Module/API Integration

Your selected ERP package needs integration between modules and optionally (but often necessary) other 3rd party platform APIs, so that all of the core business functions are connected. Information should flow across the organization so that BI reports on organization-wide results.

### Installation Type

You’ll likely be selecting from either a SaaS or On-Premise ERP Installation. Both have their pros and cons so make sure you evaluate your organization’s preference extensively. Part of the evaluation you are consider should include what are the Implementation Services available, what are the Maintenance Contracts/On-site maintenance availability, etc.

### Support

Any good ERP should include the following support channels: Forum/Community Support, Phone & Email, Chat & Instant Message. Great Support would include 24×7 availability considering how critical their ERP system is to your organization functioning at it’s best. Further, support should include extensive end-user training development tools, as well.

### Training

Obviously ERP is an advanced technology with many different potential modules you’ll want to utilize. Make sure that upfront and ongoing training comes standard from your list of potential ERP vendors.

### Previous Experience With Vendor

Has your organization engaged with this vendor for a previous project? Do some due diligence on this to make sure there weren’t past performance issues (integration, staff interfacing, etc.) that rule out a possible vendor you are considering.

### Financial Stability

As we’ve recommended before in our [CRM checklist](https://www.selecthub.com/customer-relationship-management/crm-requirements-checklist-and-downloadable-template/), be sure to check out financially stability/status using services like Dun & Bradstreet. Check for funding history (including most recent funding), count of employees, and other indicators that the selection of ERP vendors you’re evaluating are in good shape fiscally.

ERP is an integrated, real-time, cross-functional enterprise application, an enterprise-wide transaction framework that supports all the internal business processes of a company.

It supports all core business processes such as sales order processing, inventory management and control, production and distribution planning, and finance.



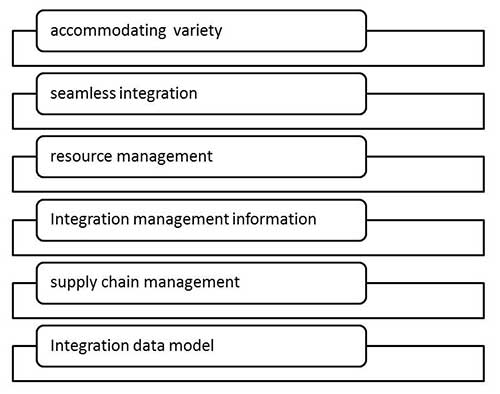
## Why of ERP?

ERP is very helpful in the follwoing areas −

* Business integration and automated data update
* Linkage between all core business processes and easy flow of integration
* Flexibility in business operations and more agility to the company
* Better analysis and planning capabilities
* Critical decision-making
* Competitive advantage
* Use of latest technologies

## Features of ERP

The following diagram illustrates the features of ERP −



## Scope of ERP

* **Finance** − Financial accounting, Managerial accounting, treasury management, asset management, budget control, costing, and enterprise control.
* **Logistics** − Production planning, material management, plant maintenance, project management, events management, etc.
* **Human resource** − Personnel management, training and development, etc.
* **Supply Chain** − Inventory control, purchase and order control, supplier scheduling, planning, etc.
* **Work flow** − Integrate the entire organization with the flexible assignment of tasks and responsibility to locations, position, jobs, etc.

## Advantages of ERP

* Reduction of lead time
* Reduction of cycle time
* Better customer satisfaction
* Increased flexibility, quality, and efficiency
* Improved information accuracy and decision making capability
* Onetime shipment
* Improved resource utilization
* Improve supplier performance
* Reduced quality costs
* Quick decision-making
* Forecasting and optimization
* Better transparency

## Disadvantage of ERP

* Expense and time in implementation
* Difficulty in integration with other system
* Risk of implementation failure
* Difficulty in implementation change
* Risk in using one vendor

## ERP Modules

### 1. Finance

### 2. Procurement

### 3. Manufacturing

### 4. Inventory Management

### 5. Order Management

### 6. Warehouse Management

### 7. Supply Chain Management

### 8. Customer Relationship Management (CRM)

### 9. Professional Services Automation (Service Resource Management)

### 10. Workforce Management

### 11. Human Resources Management

### 12. Ecommerce

### 13. Marketing Automation

**The role of ERP**

* 1. Sales order processing
  2. b) Customer data processing
  3. c) Data analytics Order management syst
  4. Manage your orders effectively with ERP

### **What are the Factors to Consider When choosing ERP Software?**

1. **Upgrade vs. Replacement.** Evaluate first if you need to get a new ERP system or just an upgrade. Many ERP solutions today are modularized. You can simply integrate a module, for instance, payroll, with your current applications. This way, you minimize disruption and costs. But if your ERP system is ten years or older, it may be wise to replace it. You can leverage today’s ERP solutions for mobility, integration, scalability, and deployment options. Similarly, machine learning, predictive analysis, and advanced reporting are pushing ERP to the next level.
2. **Training and Setup.** On-premise ERP solutions need to be installed by someone with technical know-how. If you lack a tech team, make sure you understand your service level agreement or SLA. Installation is often charged separately from the license, but some vendors offer all-in bundled plans. For SaaS ERP, setup is as easy as activating an account to access the vendor’s server. Likewise, ERP is more complex than most business solutions, so it requires user training. Does your vendor provide this service? Whether bundled in or exclusive to the plan, the kind of training you’ll receive should suffice for average users to adopt the system.
3. **Reporting and Dashboards.** Go beyond spreadsheets and PDF exports. ERP solutions today feature advanced reporting that can generate compliant financial statements based on your region. The latest ERP reporting tools also allow in-system queries and smart filters, coupled with real-time data. Likewise, look for agile and ad hoc reporting to quickly adjust to evolving business needs and disruptions. Dashboards, on the other hand, should let you mash up quantitative vs. qualitative data at user, role, and department levels. Look for the standard dashboard function of displaying KPIs with drill-down links.
4. **Integration.** ERP should work seamlessly with your existing business applications. There are several integration points you need to consider from top to bottom. These include system-to-system (example, ERP to your existing CRM or HRMS), module-to-system (example, ERP payroll to your existing HRMS), and file transfer capabilities (example, exporting/importing PDF, JPG, DOC, CSV files). An ERP with flexible integration can work with existing infrastructure, expand its functionalities or, in fact, replace it while ensuring smooth records and file migration.
5. **Customization.** Aside from ensuring the ERP processes match your key business workflows, look closely at your departments. They may have different priorities and cultures, which may even be contradictory. For example, marketing spends, while accounting saves, or production lives by daily output, while sales live by monthly quota. All these lead to myriad workflows that won’t fit into a one-size solution. Look for an ERP solution with customization tools, localized dashboards, and configurable workflows, among others, that allow departments to define their goals and set the ERP based on their parameters.