

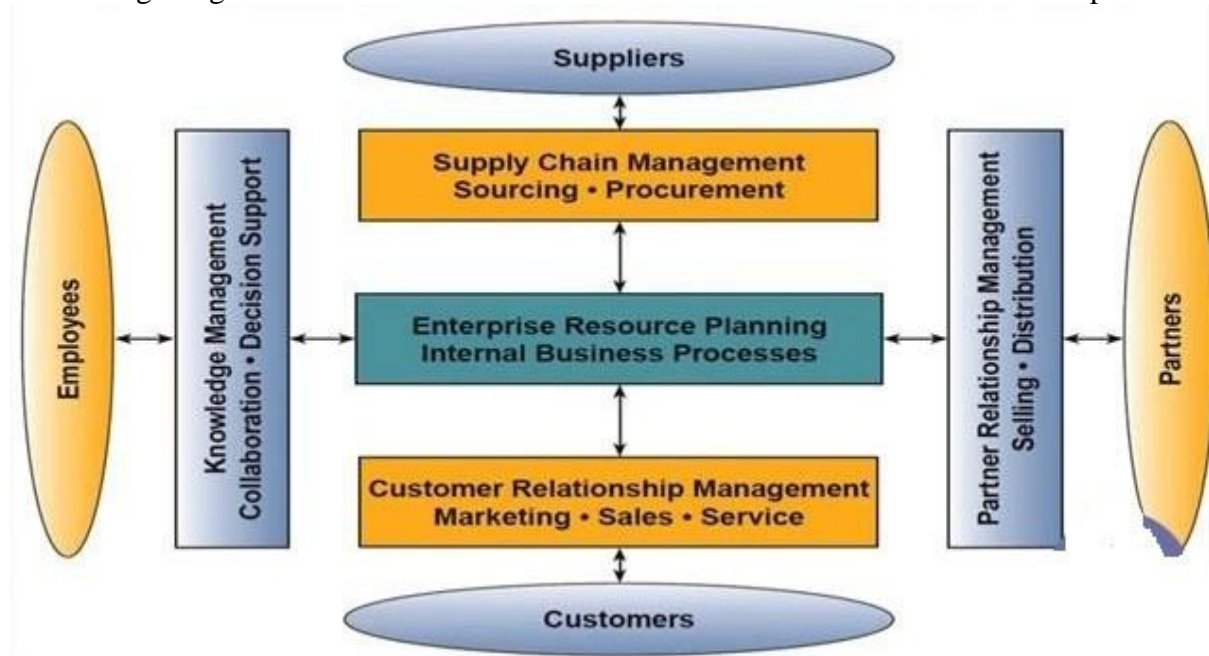
Enterprise Resource Planning

There are various functional areas in business i.e. Marketing, Finance, HR, Production etc & Business processes are of two types in terms of area of operation, i.e.

- Business Processes within any one functional area
- Business Processes which spans over many functional areas

Enterprise resource planning system is a special kind of enterprise wide information system that connects integrates and automates all the business processes within a single functional area as well as within multiple functional areas.

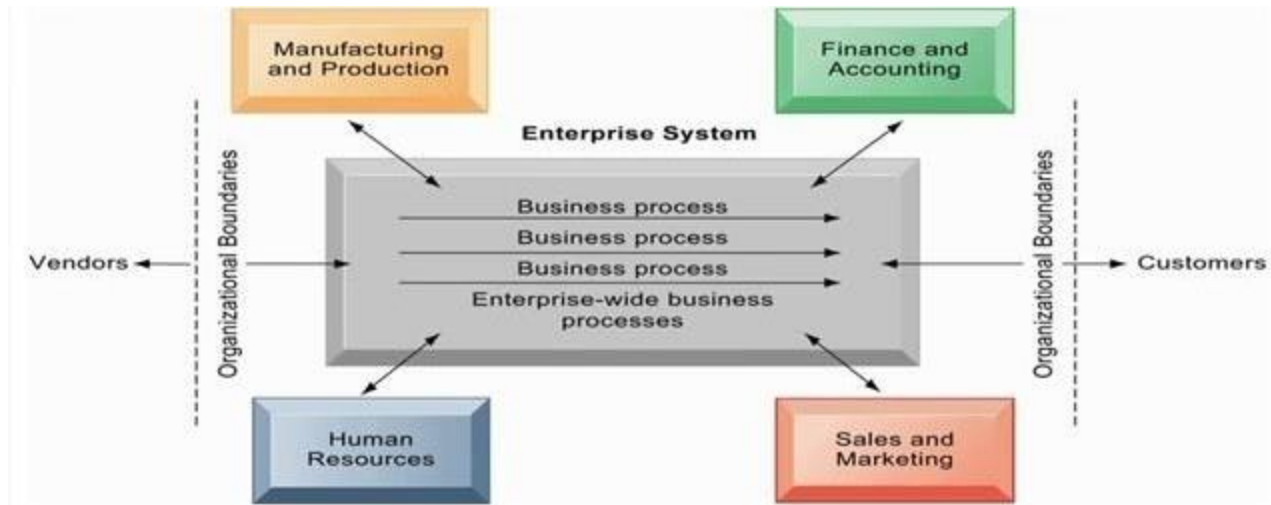
It is actually different from across in enterprise information system which connects the stake holders. But ERP has provisions for connecting ERPs of other stakeholders possibly or to the systems somehow getting the data from other stakeholders. But external stakeholders are not part of ERP.



If you look at this diagram, here is your ERP which is for internal business processes but when you connect to your external stakeholders like suppliers or customers or other, your supply chain partners, you may have certain intermediate software, let us say for procurement, you can have e-procurement system, for supply chain management, you can have supply chain management system, for customer relationship, you can have a system as well, for sales and marketing, you can have another system.

But all of them might be exchanging the data with the enterprise system but they exactly are not the part of enterprise system. ERP has been designed in such a way only for security reason to prevent other entities to access this, your internal business processes.

So ERP is basically called as a Technological Backbone of the business. It is an enterprise wide transaction framework. It is a cross functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes of a company.



ERP system integrates the key business processes of an entire firm into a single software system that enables information flow seamlessly throughout the organization.

These systems focus primarily on internal processes but may include transactions with customers and vendors through another interface which is not exactly part the ERP system but it gets data. For example, in customer relationship management software, your ERP system will be getting data from there but it may not be exactly the part of ERP system.

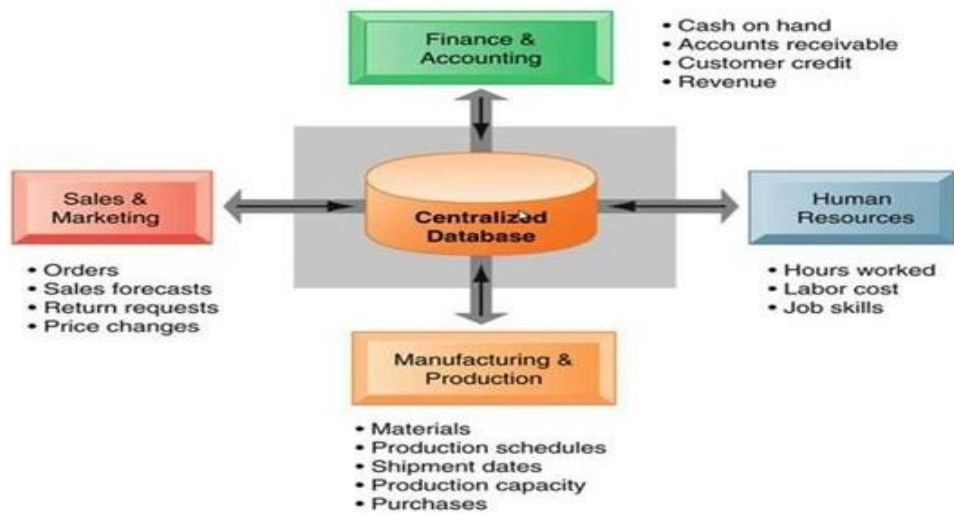
Example:

This is one example of that order processing which is a cross functional area where you have inputs, i.e. the inputs going, moving among various subsystems.

- Order is captured from your sales subsystem
- Captured order goes to your operations where the planning takes place
- Then it goes to the manufacturing processes where the production takes place
- Then it goes to your distribution department and so on.

So ERP helps in integrating this cross functional business processes.

Integration Mechanism in ERP



This integration is basically possible through the help of a centralised database.

The problem i.e. **Data Replication** used to happen in the independent existence of these the subsystems/ standalone systems have been removed.

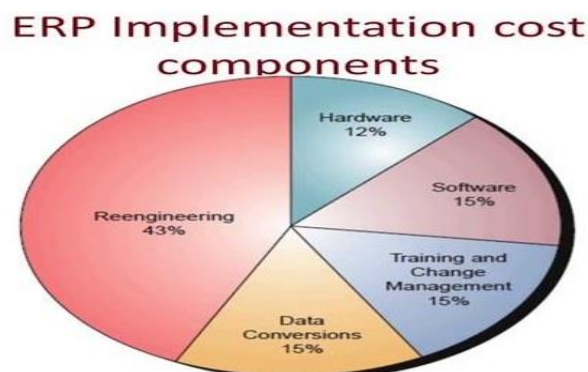
So once you have a centralised database which is accessed by each subsystem, for example that consider about that order processing. Your order data through sales and marketing subsystem entered to the database which is accessed by finance Department, which is also accessed by manufacturing Department and so on.

In this centralised database, not only the data about the entities are stored, but the data about how to manage the workflow containing various business units are also stored. Workflow basically is the flow of information among various business entities.

Maintaining how the business will flow, who are the entities, who are the stakeholders involved in between, that is also taken care of by the program and this centralised database.

So ERP is technically the centralised database and a set of programs which work on this centralised database to make this business processes automated.

ERP implementation cost components



ERP can be either developed in-house or you can have a ready-made ERP software purchased and installed. Now when it comes to getting a ready-made like that of SAP.

Business processes are unique for each organisation. Let us say a simple order processing.

The overall steps involved in the simple order processing begins from sales Department and finally the order is dispatched to the customer.

But internally, the information flow from one internal stakeholder to the other stakeholder, one employee to the other employee, one department to the other department, is actually different from organisation to organisation.

If the organisation goes for developing its own ERP, it might be looking lucrative because you actually do not have to change your business processes. Business process can be automated as it is.

But if you buy one ERP software from a established software vendor comes with certain problem i.e it may not be exactly like the business processes of your own organisation.

Therefore, when you get the ERP system, the major task is reengineering your own business processes to fit to that ERP system. Not only the ERP vendor but you also need to hire a consultant who can help in reengineering your business processes to suit into the ERP system.

Maximum of your investment goes for **reengineering**. Then there is **hardware costs**, you have to buy **servers** and all and high end systems for maintaining your data, **ERP software** itself.

Then another chunk of data is for **Data conversion**. Before ERP, you were having subsystems which were computerised and were existing individually and they might be keeping the data in different forms. Somebody storing in Excel sheet, somebody is storing in Microsoft access, somebody is storing in Oracle, somebody is storing in something else. Now internally, how this data is represented is different in all the software. Mapping various data format is a challenging task.

Benefits of ERP Systems

- Improvement in quality and efficiency of customer service, production and distribution,
- Reduction in terms of transaction processing cost, hardware, software and IT support staff.
- Cross functional information flow enables better decisions in a timely manner across the entire enterprise
- Break down many departmental and functional walls and enables agile organizational structures, managerial responsibilities and work roles.
- Better decision-making is possible. Then it is actually because the information comes from various sources and it is accessible to various entities, almost every entities in the organization, of course .it is not that every entity will be able to access every kind of information. Depending on the role, there will be access control.

Role of Manager in implementing Enterprise Resource Planning

1. Commitment and Support:

Top level managers have the responsibility of leading the entire firm and should act like a role model for implementing ERP.

2. Change Management:

Change Management consists of three stages.i.e.*Dismantle, Changeover & Bind*

- **Dismantle:** This is the first step in which the manger has to dismantle the existing mindset probably by explaining the benefits of change, providing successful role models or providing examples of similar firms that have already implemented ERP systems and are performing better.
- **Changeover:** This is the second step to bring in the change-this causes confusion because there is no clear picture of what is replacing the old system.So, here the manager should make attempts to pacify the manpower through counseling or discussions on what will occur next.
- **Bind:** This is the third step in which change has effectively settled in and the comfort level of the users has returned but it is important to keep the users motivated so that organizations can avail the long term benefits of ERP systems.

3. Cost Consideration:

The manager should take into account the requirement and cost aspects of the proposed ERP system, which will help in choosing the right type of ERP packages.

4. Communication:

A communication plan should be made by management in the following manner:

- Create awareness and justify the need for ERP implementation
- Provide step by step demonstration of software modules as applicable to the department or the firm and the business process
- Explain strategies used by the firm to bring in changes
- Decide communication points to address queries and grievance
- Provide periodic updates

5. Risk Management:

The management should note down the deviations in time and plan and also suggest an alternate course or corrective action that needs to be taken to rectify these deviations.

6. Training:

Since ERP systems are extremely complex and incorporate several modules, they demand rigorous training. Training programmes be customized according to the special needs of the customers.

7. Project Team Competence:

The management should ensure that the different members of the team involved in the ERP implementation have the necessary skills to perform the transition and lead the change. The team shoulders the responsibility to lead the change, communicate to others, and make the change process smooth for others.

8. IT Infrastructure:

Data in the organization must be compatible with the standards used in the ERP system. Therefore analysis of the current data and their conversion is also required.

9. Vendor Relationship:

Vendor support is also crucial because the organization does not have the technical and transformational skills needed to undertake such a major project on its own.

Issues in Enterprise Resource Planning Implementation

Some of the key issues that arise during the implementation of the ERP package are listed here:

1. Pre-implementation Issues:

The negligence of activities at the pre-implementation phase is a major source of failures.

Some of the pre-implementation strategies that can be incorporated to overcome the implementation issues are

- Incorporation of risk and quality management plans in the change management plan
- Phased rather than gradual implementation
- Strategic plans for recruitment
- Selection and training

2. Complexity of ERP Systems:

- A possible remedy for this could be to understand the organizational requirements and then choose the appropriate package.
- Another issue is the integration of different business functions. This requires end-to-end cooperation and involvement of overall functional and departmental boundaries.
- Another complexity arises from re-engineering existing business processes.
- The solution lies in the fact that the vendor should understand the user's (i.e. firm's) requirements thoroughly before implementation.
- The most basic requirement of success is *the clarity of the user's requirement*.

3. Hiring and Managing Consulting Firm:

- Generally organizations take the help of a third party vendor that offers services such as *consultation, customization* and *support*.
- The consultants should be skilled in ERP, technology and business practices.

4. Knowledge Constraints:

Proper knowledge of ERP systems is very important because *it will not only help large organizations* to change their mindset and implement an ERP system but *it will also guide small organizations* to choose the right ERP package.

Emerging Trends of ERP Application

CRM is the first and the foremost priority:

The valuable customer data, obtained from an effective CRM system, makes the sales team of an enterprise efficient, which thereby boost-up company's sales.

Need based ERP:

The current market trend small and medium-sized enterprises or firms are the sale of need-based ERP software.

Increasing focus on Business Intelligence:

Using ERP software along with specialized business intelligence, businesses are focusing on making better predictions and taking better decisions

Increasing need for focused services:

Organizations are now using specialized ERP software to great extent.

Changes in market:

Significant changes in the market have given vendors a platform to make their presence stronger. Earlier, there were many vendors, but now there are few recognized players with stronger offerings in their focus areas.

Mobile ERP:

Another emerging trend is that, now, organizations are investing in ERP solutions that are easily accessible from mobile devices like smart phones and tablets.

Competition from Disruptors:

- The ERP that have traditionally dominated the industry are facing stiff competition from new **Software-as-a-Service (SaaS)** technology.
- ERP application delivered via **SaaS** has its benefits i.e. *cost* and *scalability*.
- New technologies like **Big Data, Data Visualization**, and **Artificial Intelligence (AI)** threaten to ERP fundamentally & alter the way ERP systems are built and used.
- Enterprises looking to upgrade or migrate their ERP systems will need to pay attention to how their new prospects handle these trends.

Data Storage:

- Traditional **ERP applications are stored on your servers**, which mean you're responsible for upfront hardware costs, long-term hardware maintenance and expansion, and data backup and recovery.
- **SaaS based apps are stored on cloud-based servers**, which are much less expensive, much quicker to update and scale, and don't take up any valuable office space with large servers.

Adding Social Media and Digital Marketing

ERP is generally focused more on operations than marketing, but those modules that address sales will need to become **social media-savvy** in present time. *That's mainly due to the massive user base that social media will enjoy in the coming year.*

ERP for the Subsidiary:

- Another cost-controlling trend becoming popular even among midsize businesses with multiple subsidiaries is to ignore ERP's goal of managing the entire enterprise and simply deploy those pieces that make sense at any particular location.
- This approach lets businesses monitor SaaS ERP performance to determine how it might fit into the existing on-premises ERP implementation—or whether it should replace on-premises ERP throughout the entire organization.

The Internet of Things (IOT)

- As more devices and products become connected to the internet, more data can be automatically funneled into the ERP system, and that's implying too

valuable an advantage to ignore. *This trend gives you better oversight over things such as the supply chain, your shipping partners, and appliance performance and it also provides more data to your overall data pool for better overall decision making.*

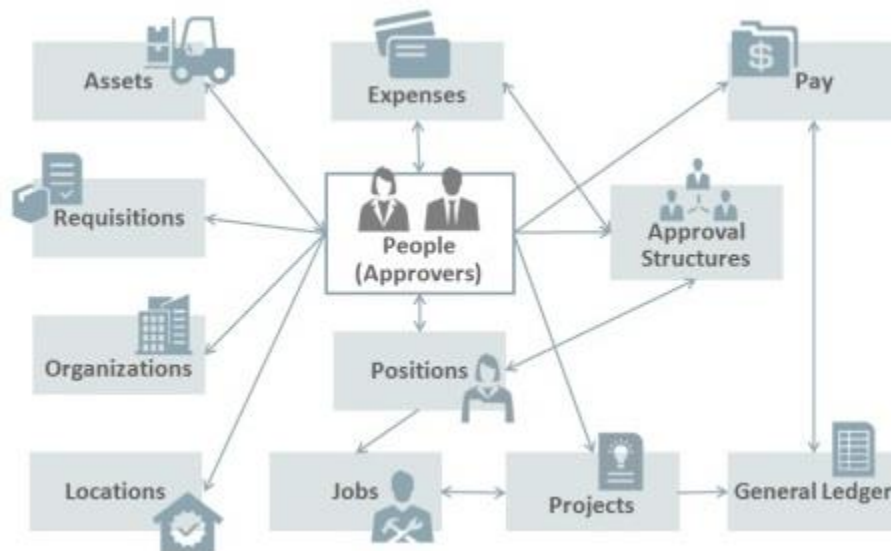
- That's exactly where it bumps hard into ERP, which is a software philosophy that shares the same goal. Harnessing this data could prove beneficial across any industry. From health care sensors that inform electronic medical records(EMR) management to robotic sensors on the factory floor and even to data monitoring devices mounted in delivery trucks sending information back to fleet management software, IoT devices are becoming indispensable to competitive operation.

Human Resource Management(HRM)	Human Capital Management(HCM)
Human resources are used from development and cost center point of view.	Human Capital is used from profit center point of view.
Human resource means those employee or would be employee who is having four characteristics- <ul style="list-style-type: none"> • Physics (head leg, hand) • Mind and Intellect • Relationships • Spirits 	Human Capital treats those people who already have developed all the resource and these resources can be used for maximizing profits.
Human Resource Management (HRM) finds the cost invested in human resource	HCM searches for the value to the organization by the people.
HRM calculates the input by the people	HCM look forward output of the people.
HRM is the expenditure done on human resource.	HCM is an investment

ERP Applications in Human Capital Management (HCM)

ERP systems can access key HCM data to

- Use employee and team performance to determine training needs and monitor results to see if output increases.
- Determine whether employee turnover rates in a particular region impact revenues,
- Use HCM data on employee skills and certifications in bidding for new projects and facilitate professional services automation in ERP, and
- Incorporate workforce management functions like Time & Attendance into job costing analysis.



Integrated systems can lead to greater efficiency, better decision-making and a better experience for employees and customers.

Shared Foundation Data between ERP and HCM	
<ul style="list-style-type: none"> • Addresses • Assignments (including status types) • Budgets • Business Units • Competencies (including profiles, elements, definitions, rating levels) • Jobs • Legal Entities • Locations 	<ul style="list-style-type: none"> • Operating Units • Organizations (including structures, versions, elements, units) • People • Periods of Service • Person Types • Phones • Positions • Qualifications (including types)

Clients typically find five major benefits in using an integrated suite of HCM and enterprise resource planning (ERP) deployed on a single platform:

Security and Governance

Integration also impinges on security. Single sign-on (SSO) security is straightforward to implement in a homogeneous single platform environment like Oracle ERP Cloud and Oracle HCM Cloud.

Workflow and Business Process

Having a single unified cloud platform ensures a single business process tool that cuts across processes and domains to ensure consistent workflows. For example, when an employee creates a purchase requisition, the business process will be able to determine the approval routing by leveraging both information in Oracle ERP Cloud and Oracle HCM Cloud; including business unit and employee cost center, the approval limits in the management chain, the item category, and the location of the employee.

Reporting and Analysis

Having a single unified cloud platform gives you a single data source and a single reporting environment across the enterprise to apply the same security and controls.

Common Self-Service Access

The unified cloud platform provides a common entry point for everyone to have a consistent user experience across the domains. This gives you one login to access the information you are allowed to see and the information you need from one system.

Single Data Entry Point

The unified cloud platform is one data model and is one system of record of an individual (i.e. each person has one unique identifier, one current name and address, etc.) allowing all people related information to be held in a single place, maintained by common data entry processes. This gives you information that is accurate, rich in content and current from one single location.

ERP Applications in Financial Management (FM)

Implementing an ERP system into your company's Finance Management activities consists of the followings.

Financial accounting system

It is a special program that reduces paperwork and helps streamline financial planning process, simplify all the financial procedures and receive full financial visibility into manifold operations.

Fixed asset management system

It allows easily and quickly controls and track non-depreciating or depreciating financial company assets and provides the workers with comprehensive reports about valuation, assets and depreciation.

Financial dashboards, reporting and analytics system

This system helps monitor and operate your business financial performance utilizing real-time dashboards with expenses, key revenues and receivables metrics, optimize cash management and easily create various financial reports in accordance with the requirements of the company.

Payment management system

It makes it much easier for the clients to run their businesses by accepting a huge variety of payment command options. Moreover, it helps to receive more effective payment acceptance and get secure and full financial processing.

Budgeting and forecasting

It controls workflow management, multi-dimensional information collection, dynamic assumptions and formulas and full financial planning statements.

Private team collaboration program

It allows to organize special discussion groups that manage permanent communication about financial planning and to generate collaborative online documents on diverse financial procedures.

Modeling and administration system

This has an ability to budget in manifold world currencies, stores operational and financial metrics and accounts and operates various models for product planning and complex sales.

Billing management and invoicing system

It helps to automate all the financial procedures, exclude the risk of errors, and provide the clients with the bills as soon as possible and speed up payment processes.

Integration with other systems

It helps to exchange information with any external applications, online financial dashboards, e-mail calendar notes, etc.

Benefits of ERP in financial management

Up-to-date ERP technologies automate daily business activities of your company and have a much more significant meaning than ordinary electronic data storage with basic customer information.

With the help of ERP system in your business you are able to:

- Improve business performance
- Facilitate procure-to-pay and order-to-cash processes
- Cut out all possible errors and streamline financial procedures
- Certify financial reporting and adherence to comprehensive, controllable accounting
- Spend less time on data consolidation and more time on data analysis
- Gain strong fiscal control

ERP Applications in Supplier Relationship Management (SRM)

Supplier relationship management (SRM) is the discipline of strategically planning for, and managing, all interactions with third party organizations that supply goods and/or services to an organization in order to maximize the value of those interactions.

In practice, SRM entails creating closer, more collaborative relationships with key suppliers in order to uncover and realize new value and reduce risk of failure.

Implementing an ERP system into your company's Supplier Relationship Management activities consists of the followings.

Make Informed and Well-considered Purchase Decisions

- Effectively manage your entire procurement process.
- Streamline your procurement function, and transform it into a strategic weapon.
- Right materials and services can be sourced quickly and cost effectively.

Supplier Management (Know your suppliers better)

- Manage your suppliers, define performance parameters and rate your suppliers
- Take better procurement decisions using supplier information
- Utilize statutory setup options to ensure the right tax, excise and other statutory calculations

Purchasing (Buy the Best for Your Business)

- Mould the application to your business needs, not the other way round
- Follow industry best practices for purchases
- Have the desired controls over your purchases

Receiving (Taking Stock of Goods Received Made Easy)

- Record comprehensive details related to goods received
- Perform multiple transactions in a single screen and save time and effort required for multiple data entry.
- Compare and document quality of goods received with the related expectations stated in the purchase order.

Subcontracting (Evaluate and Identify Cost-effective Sources for Subcontracting)

- Manage the complete subcontracting process end-to-end.
- Benefit from effective Order Management with Pricelist and BOM (Bill of Materials) based ordering capabilities.
- Track items in WIP (work-in-progress), get item-wise and subcontractor-wise information on any given date.

Imports (Manage Outside Suppliers with Ease and Agility)

- Specify and utilize multiple currency options for overseas suppliers.
- Quickly prepare import POs (Purchase Orders) using features like in-built Letter of Credit template.
- Track import purchases and receipts, efficiently, and cut down costs.
- Ensure statutory compliance with duty calculations and payments.

Supplier Portal (Provide an Information Window to Your Vendors)

- Enable vendors to access real time information, independently, anytime from anywhere.
- Put interaction with suppliers on a hands-free mode and save time and effort.

ERP Applications in Inventory Management

Inventory management deals with “all aspects of managing a company’s inventories, i.e. purchasing, receiving, tracking, warehousing and storage, shipping, turnover, and reordering.”

Its core objective is to maximize profits with minimum inventory investment that too without affecting customer satisfaction levels.

Inventory management is also knowing about where your stock is, how much of a particular item is available and ensuring that the products are stored well.

*Optimum inventory management is the objective of every inventory planner which can be achieved by using **Enterprise Resource Planning (ERP)** software.*

Implementing an ERP system into your company’s Inventory Management activities consists of the followings.

Overall Inventory Management (Get a complete view of inventory under one platform)

You get a pre-built automated solution which helps in streamlining all inventory activities. The software helps in providing real-time visibility of inventory across the operations.

Item Administration (Get multiple ways to classify products and group them in your inventory)

You can manage different type of items with easy tagging, classification and item analysis with the help of ERP software. You can classify items, manage multiple units of measure, get the item details, set up valuation methods, identify standard supplier, set allocation methods, various costs and substitutes for an item.

Warehouse Management (Get smarter warehouse managing techniques)

You can track the items right from their entry as a raw material from the vendor to their exit as a finished good to the supplier/customer. The application helps you in executing warehouse operations in an effective manner by ensuring activities related to stock transfers and quality checks go right.

Inventory Replenishment (Ensure perfectly adequate inventory levels)

You can maintain accurate inventory levels matching up with the requirements and easily know when to procure a material, thus avoiding unnecessary wastage.

Quality Concerns (Keep an eye on the quality of your inventory items)

ERP software allows seamless integration of quality management with all other business activities, especially inventory. You can define quality inspection plans based on certain checklists, or other properties to enter into the testing phase. The module ensures that each and every detail of the process and material is noted and the pass/fail status feedbacks are saved.

Physical Inventory Handling (Ensures the most accurate view of handling inventory items)

You can easily map and validate physical and system recorded inventory levels. These effective records relate to stock variance and adjustments for having an accurate view of the inventory.

Inventory Analysis (Ensures your warehouse is stocked right and bins are handled properly)

You can maintain optimum inventory levels to meet the needs of both your customers and operations by various inventory analysis methods.

Inventory Planning (Plan your inventory with MPS and MRP)

You have the functionality of the **Master Production Schedule (MPS)** and **Material Requirements Planning (MRP)**.

MRP helps in ensuring that appropriate material levels are available for production, necessary products are delivered and reduce waste by maintaining the lowest-possible material and product levels in the stock.

MPS decides what is manufactured, what material is procured, which schedule planner is to be followed to make them and serves as a bridge to sales as it helps in accessing information about what is to be made for customers, when deliveries are to be done.