UNIT IV:

Overview- Benefits- Technologies related to ERP- E R P packages- Business Process Re-engineering- Implementation Life Cycle of ERP- Training - Team Training- End User Training- Post Implementation (Maintenance Mode) - Implementation in large-scale organization- Applications of ERP in functional areas- Marketing- Personnel- Financial & Production

4.1.Overview:

ERP- DEFINITION

An Enterprise resource planning system is a fully integrated business management system covering functional areas of an enterprise like Logistics, Production, Finance, Accounting and Human Resources. It organizes and integrates operation processes and information flows to make optimum use of resources such as men, material, money and machine.

Enterprise resource planning promises

one database

one application

one user interface

for the entire enterprise, where once disparate systems ruled manufacturing, distribution, finance and sales.

Evolution of ERP:

In the ever-growing business

Need to analyse costs/revenues on a product or customer basis

Flexibility to respond to changing business requirements

More informed management decision making

Changes in ways of doing business.

One or more applications and planning systems have been introduced into the business world for crossing Some of hurdles and achieving growth. They are:

Management Information Systems (MIS)

Integrated Information Systems (IIS)

Executive Information Systems (EIS)

Corporate Information Systems (CIS)

Enterprise Wide Systems (EWS)

Material Resource Planning (MRP)

Manufacturing Resource Planning (MRP II)

Money Resource Planning (MRP III)

ERP has evolved from the system known as MRPII (Manufacturing Requirement planning) system with the integration of information between Vendor, Customer and Manufacturer using networks such as LAN, WAN and INTERNET etc.

MRPII system again evolved from MRP (Material Requirement Planning) system. MRP is a technique that explodes the end product demands obtained from Master Production Schedule (MPS) for the given product structure which is taken from Bill of Material (BOM) into a schedule of planned orders considering the inventory in hand.

MRPII has a number of drawbacks.

The main problem is that it has not been able to effectively integrate the different functional areas to share the resources effectively.

The traditional application systems, which the organizations generally employ, treat each transaction separately

They are built around the strong boundaries of specific functions that a specific application is meant to cater.

For an ERP, it stops treating these transactions separately as stand-alone activities and considers them to be the part of the inter-linked processes that make up the business.

4.2. Benefits

Following are some of the benefits they achieved by implementing the 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, 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.

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.

4.3.Technologies related to ERP:

Enabling Technologies :

It is not possible to think of an ERP system without sophisticated information technology infrastructure.

It is said that, the earlier ERP systems were built only to work with huge mainframe computers.

The new era of PC, advent of client server technology and scalable Relational Database Management Systems (RDBMS)

Most of the ERP systems exploit the power of Three Tier Client Server Architecture.

The other important enabling technologies for ERP systems are Workflow, Work group, Group Ware, Electronic Data Interchange (EDI), Internet, Intranet, Data warehousing, etc.

4.4.ERP Packages:

Flexibility: It should enable organizations to respond quickly by leveraging changes to their advantage, letting them concentrate on strategically expanding to address new products and markets.

Comprehensive: It should be applicable across all sizes, functions and industries. It should have in-depth features in accounting and controlling, production and materials management, quality management and plant

maintenance, sales and distribution, human resources management and plant maintenance, sales and distribution, human resources management, and project management.

Beyond the company: It should support and enable inter-enterprise business processes with customers, suppliers, banks, government and business partners and create complete logistical chains covering the entire route from supply to delivery, across multiple geographies, currencies and country specific business rules.

Best business practices : The software should enable integration of all business operation in an overall system for planning, controlling and monitoring and offer a choice of multiple ready-made business processes including best business practices that reflect the experiences, suggestions and requirements of leading companies across industries. In other words, it should intrinsically have a rich wealth of business and organisational knowledge base.

New technologies: It should incorporate cutting-edge and future-proof technologies such as object orientation into product development and ensure inter-operability with the Internet and other emerging technologies. It should be Y2K and Euro compliant, group up. Other factors to be considered are:

Global presence of package.

Local presence.

Market Targeted by the package.

Price of the package.

Obsolescence of package.

Ease of implementation of package.

Cost of implementation.

Post-implementation support availability.

6. Finalisation of the ERP package : Finalisation of the ERP package can be done by making a comparison of critical factors through a matrix analysis.

7. Installation of Hardware and Networks : This work is carried out in a phased manner depending on the schedule of implementation and need of the hardware components.

8. Finalising the Implementation Consultants : The factors of selection for consultants are Iskill set

industry specific experience

cost of hiring consultants

9. Implementation of ERP package

formation of team

preparation of plan

mapping of business process to package

gap analysis I customization

development of user specific reports and transaction

uploading of data from existing system

test run I user training I Parallel run.

Concurrence from user

Migration to the new system

User documentation.

Post-implementation support.

System monitoring and fine tuning

4.5.BUSINESS PROCESS REENGINEERING (BPR)

ERP is a result of a modern Enterprise's concept of how the Information System is to be configured to the challenging environments of new business opportunities. However merely putting in place an information system is not enough. Every company that intends to implement ERP has to reengineer its processes in one form or the other. This process is known as Business Process Reengineering (BPR).

Some Typical processes with descriptions

Process	**Description**
• Forecasting years	Shows sales, Fund Flows etc over a long period of time say next two
• Fund management	The necessity of funds and the way to raise these funds.
• Price Planning	Uncertainty and Risk factors to be considered. Simulation with "What if" type analysis Determines the price at which products are offered. Involves application of technology to pricing support such as commercial database services. Also feedback and sensitivity analysis
• Budget Allocation	Using computerised algorithms to estimate desirable mix of funds allocated to various functions.

• Material requirement, planning	Process of making new products from raw materials and include production scheduling, requirement planning. Also activities for monitoring and planning of actual production.
• Quality control	Takes care of activities to ensure that the products are of desired quality.

What is BPR?

BPR is the fundamental rethinking and radical redesign of processes to achieve dramatic improvement, in critical, contemporary measures of performance such as cost, quality, service and speed,"

Dramatic achievement means to achieve 80% or 90% reduction (in say, delivery time, work in progress or rejection rate) and not just 5%, 10% reduction.

Radical redesign means BPR is reinventing and not enhancing or improving. In a nutshell, a

"cleansiate approach" of BPR says that "Whatever you were doing in the past is all wrong", do not get biased by it or reassemble you new system to redesign it afresh.

Fundamental rethinking means asking the question "why do you do what you do", thereby eliminating business process altogether if it does not add any value to the customer.

4.6.Implementation Life Cycle of ERP:

ERP Implementation Life Cycle is the process of implementation of the enterprise resource planning in any organization. It involves many steps and stages right from the start, planning for project implementation, analysis, design, implementation, transition and operations. ERP implementation lifecycle highlights the different phases of implementing an ERP system. It starts from the projection of the ideal ERP package that is suitable for the company. The steps involved in the life cycle of the ERP implementation are:

Selection of packages:

This is the first step of the life cycle where the perfect ERP package has to be selected in agreement that fits your business environment. In the selection process, ERP packages that are not suitable they are eliminated. The package has to be carefully selected and testified. The right choice will determine the success of the ERP implementation. A proper study and research should be done before the selection.

Project Planning:

Proper planning of the implementation process of the project shall be made and designed. Resources should be allocated and the team members have to be selected.

Analysis GAP:

GAP analysis is an important step in the life cycle of ERP implementation step. GAP analysis is performed to analyze the current situation of the organization and its future position as needed.

Re-engineering is needed to make the implementation process involves many changes and alterations. The job responsibilities of employees and the number of employees can be altered as well. This step is done to make the business process more efficient.

Training:

Training of employees starts with the implementation process in the life cycle of the ERP implementation. Employees of getting used to the new system in order to run the system smoothly later. Get the time at this stage to learn the software and its features and become self-sufficient in order to be able to operate later, when consultants and suppliers to end and go.

Testing:

Testing is an important step and is carried out so that the errors can be found and resolved before the actual application process.

Application:

This step is performed when data conversion is done and the work of the database is over. After setup and testing is completed, the actual implementation is done. Once the new system is implemented, the old system is removed. The end user is trained on how to use the new system.

Maintenance:

Maintenance is carried out in the post-implementation life cycle of ERP implementation phase. The problems are identified and employees learn how to deal with it. Maintenance is also an important stage in the life cycle.

These are the stages of ERP project goes through a cycle of life of the ERP implementation. It is important to complete these steps with attention to detail in order to run the ERP project successfully. After the

application is done, maintenance is also important and the system must be regular updates to keep up with changes in technology.

4.7.Training:

Team Training:

Project Team Training is a must at the beginning of the implementation. Phase I might include General Ledger, Accounts Payable, Inventory, and Procurement. Or you might be doing a ―bigbang‖ roll out where all of Financials, Logistics, and Manufacturing are scheduled to go live at the same time. Your project team needs configuration-level training on all the core application modules being implemented. The focus should be on utilizing the software to complete end-to-end business processes such as order-to-cash, or procure-to-pay. Technical training needs include report writing, development, and system administration.

Training must be closely related to the overall corporate strategy. The ERP solution should be framed in terms of supporting the operational objectives that, in turn, support the corporate strategy. Early project team training is the best way to begin the process of combining your company expertise with external consultants' ERP expertise to arrive at the best-fit solution. You won‘t ―learn everything‖ that the software does, but if your consultants are experienced enough, they will teach you the basics plus the functionality most relevant to your business issues. Beyond configuration of specific functionality within a module, project team training should also focus on the integration between different modules within the overall business process.

Tip: Avoid sending your project team to week after week after week of training without the chance to use what they‘ve learned in a prototyping/conference room pilot environment. Two weeks in a row is the absolute maximum to schedule anyone for classes. Schedule training on a ―just in time‖ basis, just before the course content will be project tested.

4.8.End User Training:

Back-schedule end-user training development from your go-live date. Early on, do a rough-cut timeline so there are no surprises later. This should consider the number of users to be trained by business process, a list of work procedures that require training, estimated time for each class, sequence of training classes, facilities needed, and the need to train as close to go-live as possible. Involve both professional course developers/instructors and key business users in a train-thetrainer model for end-user training delivery. Use a combination of live, instructor-led classes; virtual, instructor-led classes; and

eLearning content. Arm your end users with Quick Reference Cards and online access to —how to‖ information. Have end users start to use what they‘ve learned by involving them in testing the software before going live. After going live, have your internal help desk track excessive numbers of calls and respond with additional training where needed. The main objective of end user training is for end users to become autonomous in using the ERP system to accomplish their daily work tasks. Too much information at the beginning is counterproductive. Rather, after a six-month period of being live with the solution, users can benefit from a fuller discussion of alternatives within the software. They will be more able to ask questions that pertain to real problems they've encountered.

Tip: Consider sending your internal end-user training team to a series of detailed transaction based courses (as opposed to configuration courses), so that the internal project team will then be able to develop a high percentage of the end-user training materials in-house. That will reduce the expense of contracting out end-user training development and execution to an outside firm.

4.9.Post Implementation(Maintenance Mode):

Popular expectations are:

• An improvement in processes

• Increased productivity on all fronts

• Total automation and disbanding of all manual processes

• Improvement of all key performance indicators

• Elimination of all manual record keeping

• Real time information system available to concerned people on a need basis

• Total integration of all operations

4.10.Implementation in large-scale organization:

Different consulting organizations are providing the ERP softwares that should be chosen according to the needs by the organization. Some organizations fail in the implementation process but if they plan it according to the business requirements; it can bring a success to the organization. Since we are doing globally, we need to consider the following factors.

Strategic Planning

This would involve assigning a project team from different departments like marketing, sales, supply chain, human resources, IT to formulate a plan for it. They should be assigned to examine the current business practices and according to the needs of the project set objectives and plan for it.

Procedure Review

This step would involve them to review the software capabilities. Identify where the training is needed and which manual processes in the organization should be automated in the ERP system. It will also involve developing certain standard operating procedures for the organization.

Data Collection and Clean Up

This would involve the team to examine the system data that should be linked with the ERP system as some data can be outdated. They will also need to collect new data according to the requirements and then reviewing and cleaning all the data.

Testing and Training

The organization would need to pre test the data if the system is working properly and has the accurate data. They would need to train the users and can be done effectively and cheaply if they train the trainer.

Evaluation

Once the system has been implemented and has gone live, they need to evaluate if it has given solution to the problem. It would be evaluated according to the objectives that were set in the planning phase. The system might need continuous evaluation to increase the return on the investment.

4.11.Application of ERP in functional areas:

ERP Functional Areas

ERP is designed to facilitate the sharing of informat ion across functions to eliminate inconsistency and duplication of effort. In selecting an enterprise resource planning platform, organizations should consider the various ERP modules that align with their strategic, economic and technical goals. Let’s t ake a closer look at some of those functional areas:

Marketing/Sales – Sales and marketing departments can track the customer experience from presale activities, which begin with contacting the customer, through the actual dispatch of the customer's order. Tasks related to customer visits, expenses, shipping, invoicing, forecasting and competitor analysis can be automated and/or enhanced through an ERP system. Employees can contact customers, follow up on invoices and track orders. Additionally, sales and marketing personnel can monitor their individual goals, which also can be collated and analyzed by managers and business partners.

Customer Relationship Management – ERP platforms also can incorporate customer relationship management (CRM) modules to focus on how a business communicates with its customers. This may include departments such as sales and marketing, and call center support, as well as functions such as customer interaction data, sales pipeline management, lead prioritization and customer retention.

Supply Chain Management – ERP modules supporting supply chain management may feature functions for purchasing, product configuration, supplier scheduling, goods inspections, claims processing, warehousing and more. There are also related modules to manage order processing and distribution tasks.

Manufacturing – Engineering, scheduling capacity, quality control, workflow and product life management are among the core funct ions that can fall within an ERP system's manufacturing module.

Accounting/Finance – By automating and streamlining tasks related to budgeting, cost and cash management, activity-based costing and other accounting/finance functions, ERP systems can provide businesses with real -time data and insights on performance while also ensuring compliance with relevant financial regulations.

Human Resources – Human resources modules within an enterprise resource planning system may include tools and dashboards to gather a nd interpret data on training, recruiting, payroll, benefits, 401(k), retirement and diversity management. HR managers also can monitor and measure key performance indicators (KPIs) for individual employees, job roles and departments.