

UNIT – V IMPLEMENTATION ISSUES

- **ERP Implementation Phases**
- **Pre Implementation Issues**
- **Financial Justification Of ERP**
- **Evaluation Of Commercial Software During Implementation Issues**
- **Reengineering Of Various Business Process**
- **Education & Training**
- **Project Management**
- **Post Implementation Issues**
- **Performance Measurement**
- **Implementation Plan**
- **Risk, Budget, Cost**
- **ERP Implementation—Hidden Costs**
- **Why Do Many ERP Implementations Fail?**
- **Gap Analysis**
- **ERP Implementation Challenges**
- **ERP Packages Implemented**
- **Problems Faced During Implementation Of ERP**
- **Vendors**
- **Consultant**
- **ERP Implementation Strategy**
- **Why Top Management Support Essential?**
- **ERP Implementation Methodology**

1. ERP IMPLEMENTATION PHASES

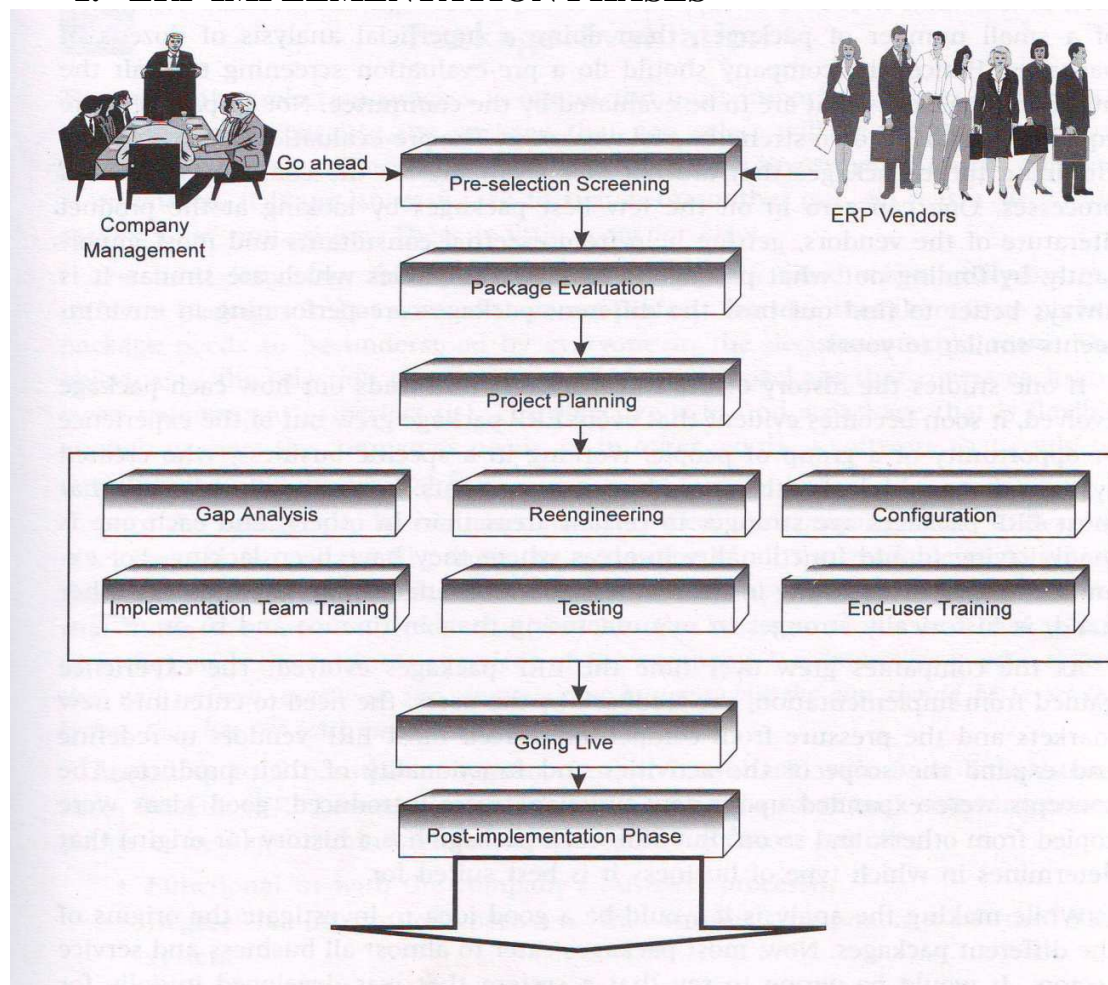


Figure 5.1 ERP implementation Lifecycle-Different Phases

The different phases of the ERP implementation are given below:

- i. **Pre-evaluation screening** – The purpose of this phase is to eliminate those packages that are not at all suitable for the company's business processes.
- ii. **Package evaluation** – In this phase the ERP package that is best suited for the organization is selected. Some important points to be kept in mind while evaluating ERP software include:
 - Functional fit with the company's business processes
 - Degree of integration between the various components of the ERP system
 - Flexibility and scalability
 - Complexity
 - User friendliness
 - Quick implementation
 - Ability to support multi-site planning and control
 - Technology-client/server capabilities, database independence, security
 - Availability of regular upgrades
 - Amount of customization required
 - Local support infrastructure
 - Availability of reference sites

- Total costs, including cost of license, training, implementation, maintenance, customization and hardware requirements.
- iii. **Project planning phase** – In this phase the details of how to go about the implementation are decided. In this phase the time schedules, deadlines, etc. for the project, are arrived at.
- iv. **Gap analysis** - This is the process through which companies create a complete model of where they are now and where they want to be headed.
- v. **Reengineering** - It is in this phase that human factors are taken into account.
- vi. **Customization** – In this phase, the ERP package is modified to suit the business processes of the organization.
- vii. **Implementation team training** - This is the phase where the company trains its employees to implement and later run the system.
- viii. **Testing** – This is the phase where the system that is being implemented is tested for any problems, bugs, errors, etc.
- ix. **Going live** - This is the phase where ERP is made available to the entire organization.
- x. **End-user training** - This is the phase where the actual users of the system will be given training on how to use the system.
- xi. **Post implementation** – This is the phase where the ERP system is used for conducting the business.

2. PRE IMPLEMENTATION ISSUES

Preparing your company for implementation is almost as important as the project itself. It is important to let everyone know that after many months of implementation preparation, implementation may not go smoothly and the pain can last as long as three to four months more even if everything has been done correctly.

Some of the most common things that are often overlooked:

- Availability of the skill set necessary for completing the implementation
- The ever-changing technological environment
- Technological obsolescence
- Length and complexity of the implementation project
- Time taken to realize the benefits from the ERP system
- Employee resistance and how to deal with it
- Training and relocation of employees
- Transition strategies

Starting an implementation with an undocumented, skimpy or untailored implementation methodology is open invitation to disaster and at the very least, a long drawn out implementation.

2.1 How to Successfully Implement ERP Systems?

Some of the things that an organization can do to ensure the success of an ERP implementation are:

- A well-defined project organization structure that details the project planning, execution and monitoring mechanism
- An attitude that stresses on business transformation instead of process automation

- An approach that brings about the proper integration of people, process and technology through effective management of change

Some other things that will ensure success are:

- A well thought out, comprehensive process to help plan, guide and control the entire ERP implementation effort.
- Evaluating the ERP plan before you commit to software acquisition and installation.
- Ensuring that the resources required for the implementation are in place
- Constant monitoring and management
- Top management participation and support
- Reviews and corrective actions

2.2 Pre-implementation Tasks

The main tasks that should be performed during this session are:

- i. Assembling the participants — one of the first steps of the project planning session is to assemble the critical stakeholders of the project. This should include all people who have a direct influence over the project.
- ii. Feasibility study and need analysis review – Feasibility study report contains the factors that will affect the ERP implementation. The needs analysis is the justification for the project. Review of these two documents will give an idea on what could be the potential problem areas and where more attention and resources will be needed.
- iii. Project mission and vision statements creation – The vision should be a global statement that is continuous and ongoing. The mission statements will consist of the major milestones of the project.
- iv. Determination of organizational structure – The organizational structure is determined to decide how the implementation is to proceed.
- v. Determination of the modules to be implemented
- vi. Creating the core team – Project sponsor, executive committee, project manager, work teams, etc. are created in this step.
- vii. Establishing the training needs – Determine how much education will be required, the type of education and the number of participants.
- viii. Establishing the data conversion strategy – The goal in this step is to establish what needs to be converted/ migrated and how it is going to be done. It is best to have experienced people from the legacy system working together with application consultants to fully understand the complete need.
- ix. Establishing interfaces – The goal of this step is to identify any interfaces that require development. This section is for the required interface programs between systems for which none exist.
- x. Determining work estimates – The work estimates for all the activities from planning sessions to training and maintenance after installation of the ERP project should be determined in advance.
- xi. Cost of consultants – In this step, the areas where the services of external consultants are needed are identified and the cost of hiring the consultants is calculated.

- xii. Calculation of implementation time – The scope, time and resources are decided and based on that the implementation time is calculated.
- xiii. Identifying constraints – All constraints of the project should be identified and documented.
- xiv. Establishing policies and guidelines – Project policies and guidelines form consistent methods for dealing with situations and events are established and documented

3. FINANCIAL JUSTIFICATION OF ERP

The financial modules interface with the distribution, planning and manufacturing modules to report the financial implications of the company's activities.

General Ledger: this module is used to record all financial transactions for the purpose of monitoring account balances and producing financial statements.

Multiple Currencies: this module is used to maintain currency conversion rates and to control the calculation of currency-related transactions.

Accounts Receivable: this module is used to track customer balances, monitor credit, and produce statements and records customer payments.

Accounts Payable: this module is used to track supplier invoices, select items for payments, and generate checks or electronic funds transfer.

Cost Management: it is used to simulate various costs for products to aid in cost analysis and projections. It can also be used to maintain costs by site, either using an average or standard costing approach.

Payroll: this module is used to generate paychecks, calculate payroll taxes, and track payments and deductions.

Cash Management: it is used to plan cash requirements and to allow input of cash transactions in a "cash-book" approach.

Fixed Assets: this module provides the capability to maintain, depreciate and retire the fixed assets such as buildings and plant equipment.

4. EVALUATION OF COMMERCIAL SOFTWARE DURING IMPLEMENTATION ISSUES

To simplify the evaluation process without overlooking a package that may be a strong fit with your organization, we typically recommend a multiple-phase process to evaluating vendors. This process assumes that you have already identified your to-be business processes and business requirements, which are both critical to an effective ERP assessment:

1) Define the potential industry-specific and general ERP packages. Based on your business requirements and budgetary needs, you can probably eliminate most vendors. We typically recommend arriving at a group of no more than 6-8 "long-list" vendors that you will assess.

2) Once the "long-list" has been identified, identify the key requirements that a package must have in order to make the short-list. These "deal-breakers" should help you arrive at 3-4 "short-listed" vendors. This stage of the evaluation process can typically be completed by discussing business requirements with each of the long-list vendors and viewing an overview demo of the product.

3) Conduct a more detailed assessment and analysis of the short-listed vendors. You should identify and prioritize all of the detailed business requirements that your organization needs of a potential ERP package. From these requirements, it is helpful to create demo scripts to ensure that each vendor is demonstrating their product as it relates to your business processes. Otherwise, vendors like to focus just on their strengths and not necessarily on how their software fits with your business.

4) During the short-list and demo evaluation, involve key users and ask them to complete evaluations for each of the vendors. These evaluations should be quantitative assessments of how well the vendors' products address the key business requirements and demo scripts.

5) In parallel with the functional assessments, assess the technical capabilities of the short-listed vendors. This should include items such as scalability, ability to integrate with legacy systems, how open the architecture is, etc. These technical factors may or may not weigh as heavily as your functional business requirements.

6) Make a decision based on the input from the vendor evaluations and technical assessments. It's not as easy as it sounds, but you will want to gather the input you've received from the various assessments and prioritize the vendors' strengths and weaknesses. Depending on the level of agreement or disagreement on your team, it may require more of a quantitative ranking and weighting to evaluate how well each of the packages meets your business requirements.

While this process may seem overwhelming and more extensive than you had planned, it is a good way to consider a comprehensive set of options without taking an eternity to arrive at a decision. Often times, it takes the help of an outside ERP consulting firm to guide the process and provide expert insight. However, given the magnitude of such a decision, it is worthwhile to make the vendor software selection that is right for your organization.

5. REENGINEERING OF VARIOUS BUSINESS PROCESS

In ERP implementation settings, reengineering has two different connotations. The first connotation is the controversial one, involving the use of ERP to aid in downsizing efforts. And there have been occasions where high-level executives have invoked the reengineering slogan, and purchased an ERP package with the aim of reducing significant numbers of employees. While every implementation is going to involve some change in job responsibilities, as processes become more automated and efficient, it is best to treat ERP as an investment as well as a cost-cutting measure, rather than as a downsizing tool. 'Downsizing' is a business practice that may its place, but it should not be cloaked within the glossier slogan of 'reengineering', or justified by the purchase of an ERP package. ERP

should engender business change, but should not endanger the jobs of thousands of employees.

The second use of the word reengineering in the ERP field refers to an ERP implementation model initially designed and used with much success by the 'Big Six' consulting firms. The BPR approach to an ERP implementation implies that there are really two separate, but closely linked implementations involved on an ERP site: a technical implementation and a business process implementation. The BPR approach emphasizes the human element of necessary change within organizations. This approach is generally more time consuming, and has received its share of criticism for creating bloated budgets and extended projects. But adherents of the BPR approach to ERP would argue that there is no way that you can ignore the human element in an implementation that involves significant changes in responsibilities. As the ERP market shifts to a mid-market focus, and as all implementations are becoming more cost-sensitive, the BPR approach has come under some real scrutiny.

6. EDUCATION & TRAINING

Education and Training are important keys to success with your new system.

i) Conceptual Training

- Depending on the users' experience you may want to offer conceptual training in conjunction with implementing your new system.
- This education could include instruction on the principles and logic behind material requirements planning (MRP), capacity requirements planning (CRP), bills of material structuring (BOM), inventory management and others.
- Different systems manipulate these functions in various ways through screen presentations, but the principles and logic upon which they are based is usually very similar.
 - It could be very beneficial for the new users to understand the principles and logic prior to actually using the new system.
 - MTAPP has courses available in these areas and APICS is also a source for educational material on these topics.

ii) System Training

- Users will require training on the new system prior to start up.
- Typically this training is provided on a formal basis directly by the software vendor or through certified subcontractors.
- It can usually be accomplished by traveling to their training site or having them come to yours.
- The method for completing this training should have been part of your evaluation process in selecting your system.

7. PROJECT MANAGEMENT

The nature of the ERP implementation is such that it is best handled within a project management context.

The organization of the project team that is best for managing the implementation takes the following format:

- i. The CEO leads the steering committee and sponsors the project.
- ii. The person who manages the implementation is the project manager
- iii. The project manager reports to a steering committee, which reviews progress and resolves any territorial, resource or policy disputes.
- iv. The project managers has the implementation teams reporting to him

Implementation strategy should be decided based on the following:

- i. Speed of implementation
- ii. Availability of people for carrying out the implementation tasks
- iii. Availability of time for training all users
- iv. Cost
- v. Confidence in the new system
- vi. Disruption to operations
- vii. Total timescale

8. POST IMPLEMENTATION ISSUES

After an ERP implementation, organizations should not sit back and relax. The first thing that an organization should look forward to, after an ERP implementation, is improved morale of the workforce. It is estimated that a well managed ERP project can have up to 200 per cent return on investment within a short period of time while a poorly managed ERP project can yield a return on investment as low as 25 per cent.

This phase is very critical. Once the implementation is over, the vendors and the hired consultants will go. To get the full benefits of the ERP system, it is very important that the system should get enterprise-wide acceptance. There should be trained employees in the company to handle problems and make necessary enhancements to the system as and when required. The system must be upgraded as and when new versions or new technologies are introduced. With up gradation, user training must also be considered. So instead of going in for up gradation as and when a new version is announced by the vendor, the organization should first analyze costs and benefits.

The post-ERP system requires a different set of roles and skills than those with less integrated kinds of systems. At a minimum, everyone who uses these systems should be trained on how they work, how they relate to the business process and how a transaction ripples through the entire company whenever they press a key. Thus training will never end, since new persons and new functionality will always be entering in the organization.

Post-implementation support generally involves queries from the user, minor changes in the report formats, as well as small changes in layouts of various printed formats like purchase orders etc.

Post-implementation phase includes:

- Post-live assessment
- Training and documentation supplementation
- Centre of excellence design and implementation
- Change management and organizational design services

- Knowledge management
- Business process consulting
- Configuration services
- SCM system deployment
- Lean manufacturing consulting and integration

9. PERFORMANCE MEASUREMENT

- Performance measurements are carried out to measure the success of the ERP implementation and the effectiveness of its operation. Three performance related measures are costs, time and benefits.
- The project plan have detailed list of the tasks, the people responsible for each tasks and the timeframe for the completion of the tasks. The project plan can be used to measure the progress of an ERP implementation.
- For each step or series of steps of the implementation, objectives can be defined which, if achieved, represent progress. By achieving these deliverables there is less likelihood of problems arising at a later date as a result of an earlier event.
- The four measurable — cost, time, benefits and deliverables — present different dimensions for measuring the performance of an implementation.
- It is important to remember that while measurable provide a means to assess progress and attainment, they in themselves do not determine success.
- Performance measurement only provides reference points for further action.
- Performance measurements are not a substitute for managing people in such a way that they give their best and more.

10. IMPLEMENTATION PLAN

- Before implementing an ERP system in an organization or project, it is very crucial that the implementation process be planned.
- The implementation plan documents who, what, why, where, when and how of the project. It is the outcome of discussions with affected people and involves negotiations over resources, timescales and costs and their agreement.
- The most basic plan will identify all the activities, those doing them and the time frame.
- A project plan will enumerate the major tasks, the estimated duration (usually specified in months), resources required and people who will be doing the tasks.
- The project plan can be handwritten, prepared using a spreadsheet or using specialized project management software.
- There are two types of plans—high-level plan and detailed plan.
 - The high-level plan will give an overview of the project and can be used by the top management for monitoring the project.
 - The project manager will develop a detailed project plan, where the high-level plan is broken down into a lot more detail with the time windows being weeks or days rather than months.

11. RISK, BUDGET, COST

- Even the most detailed of project plans can go astray for events that could have been anticipated and prevented and hence it is prudent to carry out a risk analysis.

- The aim of risk analysis is to anticipate possible problems, assess their likelihood of occurrence and their intensity of impact and finally, to establish how they can be prevented or best handled if prevention is not possible.
- Risk assessment should be carried out at the outset of the project and should be regularly reviewed, revised and updated. Process developments and changes in project conditions may raise the profile of risks that were previously viewed as insignificant.
- After the costs of the ERP implementation are identified (during the planning stage), a budget is established. The budget should have provisions for unanticipated problems and unforeseen issues that are likely to result in additional expenditure.
- The total cost of ERP ownership includes the costs of packaged software, hardware, professional services (for ongoing maintenance, upgrades and optimization) and internal costs (training cost, re-location costs, cost of temporary employees, etc.)
- The costs of the ERP implementation, operation and maintenance should be budgeted and all budgets should be reviewed and revised periodically.

12. ERP IMPLEMENTATION—HIDDEN COSTS

Although different companies find different hurdles and traps in the budgeting process, those who have implemented ERP packages agree that some costs are more commonly overlooked or underestimated than others.

The hidden costs of ERP implementation are:

- i. Training
- ii. Customization
- iii. Integration and testing
- iv. Data conversion
- v. Data analysis
- vi. Consultants
- vii. Brain drain (employee turnover)
- viii. Continuing maintenance
- ix. Waiting for ROI
- x. Replacing the best and brightest
- xi. Post ERP depression

13. WHY DO MANY ERP IMPLEMENTATIONS FAIL?

Some of the most common reasons for failed implementations are:

1. Lack of top management buy-in, commitment and support
2. Improper planning and budgeting
3. Use of wrong ERP tool
4. Lack of training
5. Work culture of the organization
6. Failure of ERP software implementation
7. Failure of user acceptance

14. GAP ANALYSIS

Gap analysis is a phase in the ERP implementation, where the organization tries to find out the gaps between the company's existing business practices and those supported by the ERP package. This is the process through which companies create a complete model of where they are now and where they are heading.

The 'gaps' are classified into the three heads:

- Gaps which can be taken care of with a little programming effort.
- Gaps which involves an extensive programming effort and hence require extra resources.
- Gaps which cannot be taken care of in the system.

The trick is to design a model, which both anticipates and covers any functional gaps.

Gaps found out during the gap analysis filled by different ways.

- One of the most affordable, but most difficult, solutions entails altering the business to 'fit' the ERP package.
- Another solution is that the company can simply live without a particular function.
- Other solutions include:
 - Pinning your hopes on an upgrade
 - Identifying a third-party product that might fill the gap
 - Designing a custom program
 - Altering the ERP source code

15. ERP IMPLEMENTATION CHALLENGES

- Focus on applications rather than business processes
- Turf battles over ownership
- ERP project management expertise
- Issue resolution bottlenecks
- Scope and change management
- Sub-optimization of system capabilities
- Staffing and retaining full time project resources
- Experienced implementation partners
- Product maturity and limitations
- Nature of government funding cycles

16. ERP PACKAGES IMPLEMENTED

SAP	25%
ORACLE	14.2%
BAAN	8.8%
JD Edwards	7.4%
PeopleSoft	2.5%
QAD	2.5%
Others	39.6%

17. PROBLEMS FACED DURING IMPLEMENTATION OF ERP

- Failure of ERP Software Implementation
- Failure of Accommodating Evolution of Business Processes

- Failure of User Acceptance
- Perception of ERP to be a computer system rather than a people system made possible by computer
- Failure to recognize that the major challenge will be for a lot of people to make the transition from the informal or semi-formal to a formal system
- Failure to gauge the impact of introducing Information Technology on other dimensions (e.g. business processes, structure) of the organization, and manage the transition
- Loss of management commitment during the long implementation period, Installation is different from implementation

18. VENDORS

Vendors are the people who have developed the ERP packages. They are the people who have invested huge amounts of time and effort in research and development to create the packaged solutions. The ERP vendors spent billions of rupees in research to come up with innovations that make the packages more efficient, flexible and easy to implement and use.

Also with the evolution of new technologies, the vendors have to constantly upgrade their product to be able to use the best and latest advancements in technology.

18.1 Vendor's selection criteria

- Domain knowledge
- Adequate manpower
- Project management skills
- Long existence in the field
- Experience and expertise
- Strong track record
- Ability in handling changeover
- Financial stability
- Resources (employee strength, hiring process)
- Flexibility
- Confidentiality comfort (security policies, protection norms)

18.2 Role of the vendor

- The vendor should supply the product and its documentation as soon as the contract is signed.
- Only after the software is delivered, can the company develop the training and testing environment for the implementation team.
- The vendor is responsible for fixing any problems in the software that the implementation team encounters.
- Another role of the vendor as a trainer- to provide the initial training for the company's key users, people who will play lead roles in the implementation of the system.
- Vendor's training should achieve the goal of showing the key users how the package works, what the major components are, how the data and information flows across the system, what is flexible and what is not.

- The company's employee who is participating in the vendor training should try understanding the characteristics of the package and the impact of the system on their business processes.
- The vendor also plays an important project support function and must exercise the quality control with respect to how the product is implemented.
- It is the vendor who understands the finer details of the product and can make valuable suggestions and improvements that could improve the performance of the system.
- There will be 'gaps' between the package and the actual business processes.
- The software might have to be customized to suit the company's needs.

19. CONSULTANT

Business consultants are professionals who specialize in developing techniques and methodologies for dealing with the implementation and with the various problems that will crop up during the implementation. They are experts in the administration, management and control of these types of projects. They will be good at all phases of the implementation lifecycle, right from package evolution to end-user training. They are very expensive. Thus, consultants are people who have made the business and have invested huge amount, of money and manpower for that purpose. The cost of consultants is 1.5 to 3 times for every rupee invested in the software product.

So, finding the right consultant people is very important.

19.1 Role of consultant

- Consultants are responsible for administering each of the phases of the implementation, so that the required activities occur at the scheduled time and at the desired level of quality and with effective participation of all those who must participate.
- Consultants should add value to the project. Consultants should also know how to remain impartial while questioning current company processes in an effort to promote better businesses practices and better implementation results.
- The consultants are also responsible for analyzing and clearly addressing the customization issues.
- It is the duty of the consultant to understand the total context and scope of the envisioned work and to know when to alert the company management about actions and decisions that must be undertaken so that the job will not be customized and the implementation will not be jeopardized.

20. ERP IMPLEMENTATION STRATEGY

20.1 Big Bang

- This is the most ambitious and difficult approach to ERP implementation. Companies cast off all their legacy systems at once and they install a single ERP system across the entire company.
- Most of the ERP implementation horror stories warn us about companies that used this strategy.
- Cutting everyone to co-operate and accept a new software system at the same time is a tremendous effort, largely because the new system will not have any advocates. No one within the company has any experience using it, so no one is sure whether it will work.
- In most cases, ERP offers neither the range of functionality nor the comfort of familiarity that a custom legacy system can offer.
- In many cases, the speed of the new system may suffer because it is serving the entire company rather than a single department.
- This approach has the advantage of getting the full benefit of the integrated software across all functions of the organization. However, there is a risk of the implementation getting out of control.

20.2 Franchising strategy (module-wise implementation)

- This approach suits large or diverse companies that do not share many common processes across business units.
- Independent ERP systems are installed in each unit, while linking common processes, such as financial bookkeeping, across the enterprise.
- This has emerged as the most common way of implementing ERP. In most cases the business units each have their own “instances” of ERP – this is a separate system and database.
- The system link together only to share the information necessary for the corporation to get a performance big picture across all the business units, or for processes that don’t vary much from business unit to business unit.
- Usually, these implementations begin with a demonstration or pilot installation in a particularly open minded and patient business unit where the core business of the corporation will not be disrupted if something goes wrong.
- Once the project team gets the system up and running and works out all the bugs, the team begins selling other units on ERP, using the first implementation as a kind of in-house customer reference.
- Plan for this strategy takes long time. Interestingly, many companies that initially installed ERP using this strategy are now trying to consolidate as many of those different instances of ERP as possible down into a handful or even one for the entire company.

20.3 Slam dunk (process oriented implementation)

- ERP dictates the process design in this method, where the focus is on just a few key processes, such as those contained in an ERP systems financial module.
- The slam dunk is generally for smaller companies expecting to grow into ERP. The goal here is to get ERP up and running quickly and to ditch the fancy re-engineering in favor of the ERP systems “canned” processes. Few companies that have approached ERP this way can claim much payback from this new system.
- Most use it as an infrastructure to support most diligent installation efforts down the road.
- Yet many discover that a slammed in ERP system is little better than legacy system because it doesn’t force employees to change any of their old habits.
- In fact, doing the hard work of process re-engineering after the system is in can be more challenging than if there had been no system at all because at that point few people in the company will have felt much benefit from the new system.

21. WHY TOP MANAGEMENT SUPPORT ESSENTIAL?

Any improvement that involves change will face resistance from all the employees. It is human nature to resist change. This resistance can be due to ignorance about the new system and its advantages, fear of unemployment and fear of new technology and so on. This is true for every effort that includes change; it is not limited to ERP implementation; it is the case with any new technology. To overcome the resistance at such a massive scale, the ERP implementation team needs top management support and commitment. It is the top management that should give assurance to the employees their jobs is not endangered, that the new system is not a threat, but a solution to become competitive and remain in business. It is the top management that has to device plans for relocating the employees when –ever that needs arises, because an ERP implementation will involve a considerable amount of organizational restructuring. Also, when employees know that the top management is committed to and is firmly behind the ERP

implementation, the chances of resistance are less. To get the necessary resources, the ERP teams need to have some firepower, and for that it is better that the ERP implementation efforts are headed by somebody high up in the corporate ladder, like the CIO, who has the necessary authority and influence to get things done.

22. ERP IMPLEMENTATION METHODOLOGY

- I. Identification of the needs for implementing an ERP package.
- II. Evaluating the “as-is” situation of your business.
- III. Deciding upon the desired would-be situation for your business.
- IV. Reengineering of the business processes to achieve the desired results.
- V. Evaluation of the various ERP packages.
- VI. Finalizing of the ERP package.
- VII. Installing the requisite hardware and networks.
- VIII. Finalizing the implementation consultants.
- IX. Implementation of the ERP package.

I. Identification of the needs for implementing an ERP package.

The first step for implementing an ERP package is to identify the reasons for going in for an ERP package is to identify the reasons for going in for an ERP solution for your business. This step prepares you for some basic questions like:

- Why should I implement an ERP package?
- Will it significantly improve my profitability?
- Will it lead to reduced delivery times for my products?
- Will it enhance my customer's satisfaction level in terms of cost, delivery time, service and quality?
- Will it help reduce the costs of my products?
- Will it enable me to achieve the same business volume with reduced manpower?
- Will it enable me to reengineer my business processes?

II. Evaluating the “as-is” situation of your business.

In this step, one needs to thoroughly understand what existing business processes the organization is following to transact its business. The various business functions should first be enumerated. For example, procurement, production, sales etc. now the processes used to achieve the business transactions should be listed in detail. The technique of process mapping can be used here. The process map should give you the following details for any business process:

- The total time the business process takes to complete.
- The total number of decision points involved.
- The number of departments/geographical locations that the business process involves.
- The flow of information
- The number of reporting points.

III. Deciding upon the desired would-be situation for your business.

In this step, we decide on what we want our business processes to finally look like. Here we use the techniques of benchmarking to ensure that the targets set are comparable to the best in the industry. Benchmarking can be done on various aspects of the business like cost, quality, lead time, services, etc.

IV.Reengineering of the business processes to achieve the desired results.

To achieve the new business processes we reengineer the existing processes in such a manner that

- The business process cycle time is reduced significantly.
- The number of decision points is reduced to the bare minimum.
- The flow of information is streamlined, i.e. there is no unnecessary to-and fro flow of information between departments.

V. Evaluation of the various ERP packages.

In this step various ERP packages available in the market are evaluated with respect to the following aspects:

- Global presence:
- Local presence:
- Investment in R & D:
- Target market:
- Price:
- Modularity:
- Obsolescence:
- Ease of implementation:
- Cost of implementation:
- Post- implementation support:

VI. Finalizing of the ERP package.

After a thorough evaluation of all the ERP packages vis-à-vis the key factors of your business, the package best suited to your business needs is selected. The process of finalizing can be simplified by making a matrix of the key factors. You can then rate all the packages under these heads.

VII. Installing the requisite hardware and networks.

In this step one has to install the hardware and networks required for the chosen ERP package. The installation of the hardware has to be well planned because generally the hardware arrives in time and lies idle due to the delays in implementation. Also, the induction of the hardware should be in a phased manner to avoid blocking of capital.

VIII. Finalizing the implementation consultants.

The factors which go into the selection of the consultant are:

- Skill-set available with the consultant
- Installation base of the consultant
- Industry-specific experience

- Finances involved in hiring the particular consultant.

IX. Implementation of the ERP package.

The broad steps involved in the implementation of the ERP package are:

- **Formation of implementation team:** it is of the greatest importance to form an implementation team consisting of knowledgeable users from all functions along with IT personnel and personnel from the implementation consultant. From the people chosen, the project manager, project leaders and the module leaders should be identified and also a steering committee should be formed. The functions of the steering committee are:
 - To monitor the progress of the implementation
 - To see to it that the schedule of the implementation is adhered to
 - Resolve any problems that come up in the due course of the implementation
 - Allocation of resources for implementation
- **Preparation of implementation plan:** an important task is the preparation of a detailed implementation plan that covers the total implementation process. Here various project management techniques like PERT charts can be used. The implementation plan should have clear components and should include the schedule for the following:
 - Training of the project team
 - Mapping of business processes onto the software
 - Function-wise implementation
 - Customization
 - Uploading of data
 - Test runs
 - Parallel run
 - Crossover
- **Mapping of business processes on to the package:** this is a crucial step where the reengineered business processes are mapped on to the software. In mapping, the implementation team tries to fulfill the user requirements by making use of the standard functionality available in the software. However, if the requirements cannot be covered fully by the standard system, then the next step of implementation, i.e. gap analysis comes into the picture.
- **Gap analysis:** the user requirements that cannot be directly mapped on to the standard system from the basis of gap analysis. Here, all such uncovered requirements are compiled into a gap analysis report. The 'gaps' are then classified into the following three heads:
 - Gaps which can be taken care of with a little programming effort
 - Gaps which involve an extensive programming effort and hence require extra resources
 - Gaps which cannot be taken care of in the system
- **Customization:** once the process mapping and gap analysis have been done, the actual customizing starts. In this step, first the customizing needs are chalked out then the actual job is handed over to the respective functional teams.

- **Development of user-specific reports and transactions:** as mentioned under gap analysis, any user requirements not covered by the standard system need to be provided by extra programming effort. In this step, the required reports and transactions are created.
- **Uploading of data from existing systems:** with customizing in place, the system is now ready to receive the master and transaction data from the existing system. In this step, programmed transfer of data takes place from the existing system to the new system. To avoid wrong tabulation of master data, the transfer process needs to be thoroughly checked in the trial runs. At times it too involves a lot of programming effort.
- **Test runs:** in this step, the test run on the system is started. Sample transactions are tried to see whether the customizing and master data uploading has been error-free. The result of the sample transactions is evaluated and any changes required in settings to get the desired results are incorporated.
- **User training:** the training of users can be started alongside the test runs. Users belonging to different functionalities are trained in their respective functions. Normally user training includes:
 - Logging in and logging out
 - Getting to know the system
 - Navigating through the various menu paths
 - Trying sample transactions in respective functions
- **Parallel run:** with the successful test runs and user training in place, the parallel run of the system can be now started. In parallel run, the business transactions are carried out both through the existing system as well as through the new system. The implementation team then takes care of any lacunae which come to light during the parallel run.
- **Concurrence from user on satisfactory working of the system:** if the parallel run is satisfactory and error-free, or errors that may have come up have been resolved, the users may be asked for their final approval.
- **Migration to the new system:** when the parallel run has been successfully tried for a reasonable length of time and when the users and the implementation team feel absolutely confident, it is time to go 'live'.
- **User documentation:** user documentation includes the details on how to carry out the various transactions. It is different from the regular ERP package documentation in the sense that it is more specific in nature than generally documentation. It only covers alternatives that are being used in the particular business so as to make it easy for the user to understand and use them.
- **Post- implementation support:** post implementation support generally involves queries from the user, minor changes in the report formats, as well as small changes in layouts of various printed formats like purchase order etc.

- **System monitoring and fine tuning:** in this phase, the IT people monitor the system closely to see the performance aspects and fine tune the database and other administrative aspects of the system so that the user can derive the best performance from it.