UNIT 2 ENTERPRISE RESOURCE PLANNING SYSTEM

Structure **Page Nos.**

2.0 INTRODUCTION

There is a saying that specialist will be ‘one who knows everything about nothing’ or in a layman language we can say that ‘knowing more and more about less and less’. The development of IT has followed the same pattern, at first we had the study of ‘computers’ then further we studied of hardware and software. Software became further specialised into system software and application software. ERP is a living example of new-fangled application software. Achieving and maintaining competitive advantage is the underlying principle for every business around the world. Companies are struggling nowadays, conversely, with the integration of information from diverse contrasting IT systems and are spending approximately 40% of their IT budgets on maintaining such legacy systems. To meet this challenge, companies are investing considerably in enterprise information system which in general known as Enterprise Resource Planning (ERP) applications. It had been sighted that ERP is a key enabler of business process transformation and IT automation. As a substance of fact, gaining strategic advantage is often cited by enterprises as a key reason for implementing ERP. Over recent years the attainment, accomplishment and exercise of Enterprise Resource Planning (ERP) Systems has turn out to be a standard facet of most of the corporate and institutions. At this juncture most of the literature on ERP implementation has focused on the early stages of the ERP lifecycle: adoption, resolution, acquisition and implementation. This unit tells the fairy-tale of ERP systems as a commercial software package that enables the integration of transaction-oriented data and business processes all the way through an enterprise. ERP systems endow with cross-organization integration through embedded business processes and

are by and large composed of numerous modules including human resources, sales, production, purchase and finance. During the 1990s ERP systems were the de-facto standard for replacement of legacy systems in large companies **(Parr and Shanks 2000).** This unit will outline three (of the several) enterprise applications and business driver's service providers can use to discriminate themselves. We will examine the concepts & purpose of effective enterprise resource planning (ERP), customer relationship management (CRM), and Supply chain management (SCM). We will also demarcate the major aspects of all, examine the drivers and impacts of each, and reflect on how each relates to the service providers' product sets. If we go into the depth of enterprise resource planning system life cycle or rather ERP System Life cycle, the Figure 1 can furnish an elaborate view as the whole process consists of four steps which starts with *Step-1 Assess:* Provide information about cost, size of the package, when to buy, what to buy, what is right, what is wrong whether to go for in-house ERP or invites ERP vendors. *Step-2 Select:* Once the assessment is done next task is to select the module which is an utmost essential, lets take an example of HLL-A FMCG MNC, in India is a marketing oriented company, is in the process to implement the ERP module then it could be beneficial for the company to select the marketing modules. *Step-3 Implement:* Once the selection process is completed, the implementation starts. It is again a very careful and sensitive stage as implementation is not a one-day job and it takes years to go for final touch. In actuality implementation is a joint effort between internal & external team. At last *Step-4 Support:* the annual maintenance contact, in a layman term. It is significant as two different kinds of mindsets are going to inter-mingle, i.e., vendor side and the customers.

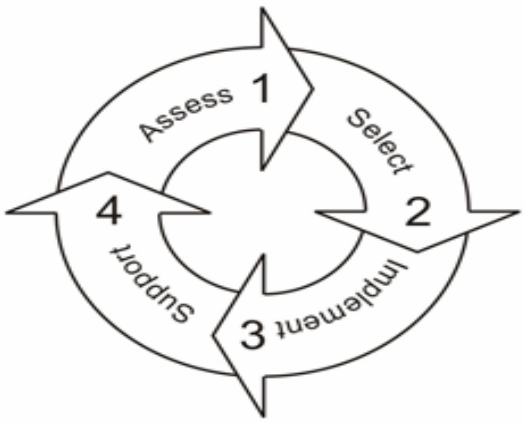


Figure: 1 ERP life cycle

ERP systems can provide the foundation for a wide range of e-commerce–based processes, including web-based ordering and order tracing, inventory management, and built-to-order goods. This unit examines the pros and cons of ERP systems, explains how they work, and highlights their role. We begin by explaining the background of ERP systems and goes on to discuss specific systems, and their capabilities. The unit contains several detailed case studies and will be an invaluable guide to managers and consultants working with ERP systems. It will also be a useful reference for other students taking courses in information systems.

2.1 OBJECTIVES

After reading this unit, you should be able to:

- describe the ERPs evolution and stages through MRP II Roots;
- explain the background of ERP system, and expert systems;
- other ERP Challenges;

- ERP Capabilities;
- explain the efforts made in creation of these systems;
- identify and discuss their advantages in business applications, and
- other ERP Hidden costs.

2.2 ERP-HOW DIFFERENT FROM CONVENTIONAL PACKAGES

Conventional packages are very much confined and restricted. In a general term it is known as legacy system. The features are very less and a slighter possibility to explore. ERP packages are miles away from these petty things. It follows the back-office and front-office concepts. The back-office job is to look after the raw material, financial issues, logistics and in brief internal matters. On the other hand front-office job-profile is to directly interact with customer. CRM is coming up as a front-office package. If we go into the depth of following figure, legacy system are very much condensed and compressed where as ERP system at the same time as compared to it are auto transactional, self helping, and mould itself in different crucial conditions i.e as a generalist and specialist. *Figure 2,* explains the comparison between the legacy and ERP systems.

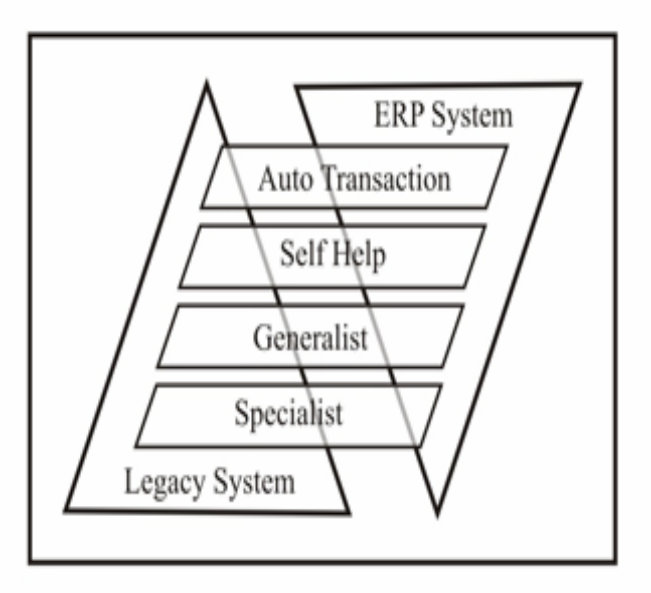
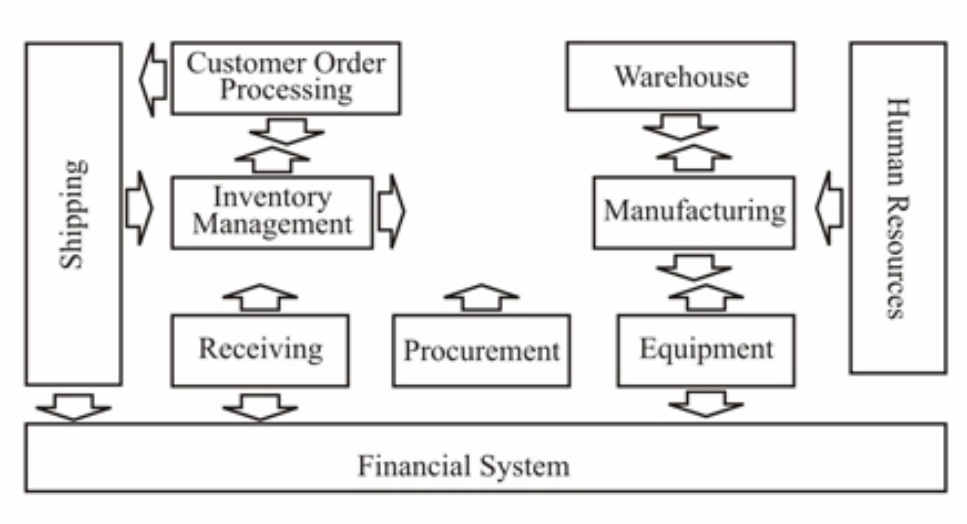


Figure 2: Legacy system and ERP system

2.3 CURTAIN RAISER TO ENTERPRISE RESOURCE PLANNING SYSTEM

ERP is not merely reengineering systems; it is reengineering the manner organisations accomplish business. In a recent CIO Magazine case study, Jeri Dunn, CIO for Nestle USA, said it this way, "If you weren't concerned with how the business ran, you could probably [install the ERP software] in 18 to 24 months" **(Worthen 2002**). ERP is one of three enterprise-class applications, including Customer Relationship Management (CRM) and Supply Chain Management (SCM) that companies are deploying to automate business processes. ERP is focused on internal back office operation to external front-office such as financial system, human resources, inventory management, shipping, customer order processing and warehouse etc. (see *Figure 3*)



2.4 BRIEF HISTORY OF ERP

More or less any dialogue on enterprise resource planning (ERP) starts with material requirements planning (MRP-I) and Manufacturing Resource Planning (MRP-II) systems of the 1970s and 1980s. In the manufacturing environment of yesteryears, the artistic focus was on the competence to produce the product. This system integrates capacity, design engineering and management, costs, and long range planning of the enterprise into the equation. There are four stages to ERP.

- **MRP-I:** Material requirement planning, which was nothing but a historical background of ERP, the motive, was only to tap inventory i.e. raw materials planning.

- **MRP-II:** Manufacturing resource planning which looks after production related things. The concept of MRP II was to look after shop floor and distribution management activities.

- **ERP: E**nterprise resource planning whose role is very wider and not confined to one department but have a broader purview.

- **ERP-II or MRP-III:** Money resource planning or ERP-II advent can be seen few years after ERP system origination which more emphasize on planning of capital or when surplus money arises.

2.5 FORCES, WHICH MAKES ERP STRONG AND SUCCESSFUL

There are distinguishing forces, which make ERP well built and flourishing. These are not confined to following but changed according to the circumstances.

E-commerce: Without Internet and e-commerce ERP is like, a boat without rudder as there are many locations, which cannot be accessible by road so there is a need of wireless systems, which can efficiently be managed through Internet.

Customer: Customer is vital for every vendor either it is fast moving consumer goods, or service oriented organisation like, insurance sector. Because if there could be no customer there would be no circulation consequently no selling, thus without customer ERP is useless.

Enterprise: It is an appropriate place where it can show its potential.

Financial infrastructure: ERP is not like a windows 98 package, if you won't get the original one you can purchase the pirated from computer shop say in Nehru Place. It requires a planned fiscal setup. *Figure 4* can make the picture clearer.

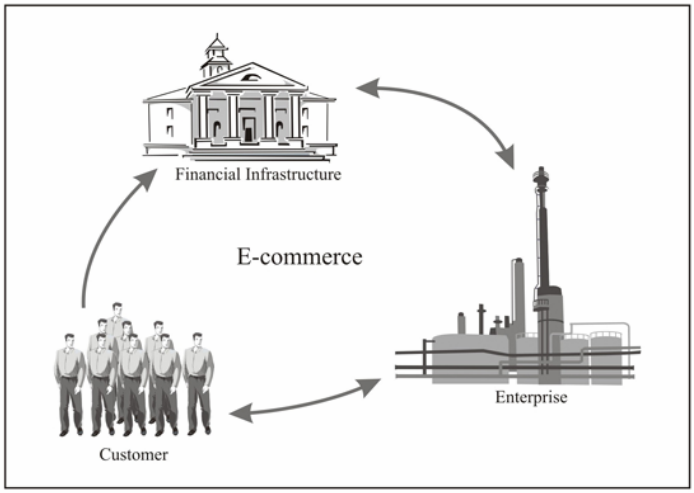


Figure 4: Four Forces, which makes ERP strong and successful

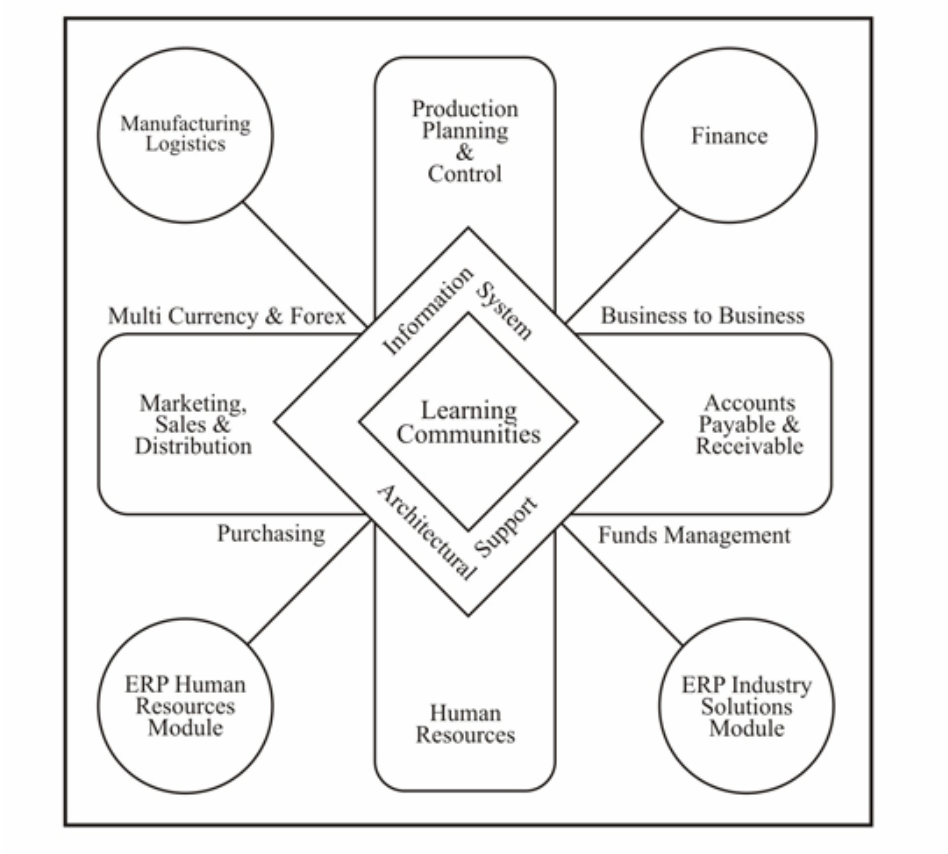
2.6 NEED OF ERP

Conventionally, companies have created islands of automation. A hodge-podge of distinguishes systems that operated or managed a diversity of contradictory business processes. Companies have had analogous complicatedness with each new wave of information technology since the first mainframe systems. It takes years to apprehend some envisioned IT-enabled changes in organisational processes and performance, and there are many ways to fail along the way. An ERP can be defined as a coordination in which various functions of a company (accountancy, marketing, and production) are connected each others by the use of an information system centralized on the basis of a client/server configuration. It is regarding the integrated management system of a company, constructed on an integrated software package undernourished. The need of ERP can be elaborated and explained with the help of following question:

- **Why should we implement an ERP packages.**
  Ans: We should implement an ERP package to get an edge over our business rivals.
- **Will it significantly improve our profitability?**
  Ans: Have you any doubt about its creditability? It will bring drastic change once you put the flavour of it in your organisation.
- **Will it enhance our customer satisfaction level in terms of cost, delivery time, service & quality in totality?**
  Ans: Take an example of pitcher when we go into the market to purchase it and if there could be any hole of very minute size say 0.0005 mm should we purchase it answer is no! So totality is like that, it would not be 99.9 % but absolute 100 %.
- **Will it enable the organisation to reengineer the business process?**
  Ans: Yes by changing the approach i.e. mindset of the people and office automation
- **Will it permit the organisation to achieve the same business volume with reduced manpower?**
  Ans: Yes because ERP is a process by which certain technologies and know-how can be incorporated and put into force, which can reduce and eliminate surplus or unwanted manpower thus results in reduction of cost and increment in profit

2.7 ERP COMPONENTS

If your requirements go ahead of the capabilities of accounting software, and you find the prospect of implementing conventional ERP software overwhelming, you need ERP. All application modules share data through the ERP database, which contains the data for all modules. This is a new implementation of the old key database concept of entering data one time and then using it in all other processing. The world's finest easy-to-use ERP solution is fully web-enabled, seamlessly integrated and can be implemented in weeks. And it can computerize your complete operations globally. ERP can furnish assistance in accomplishing unimaginable efficiency of operations, significant cost savings, and maximize profits. ERP is packed with powerful features, tremendously easy to implement and use, comprehensive in its scope, modular and flexible, fully customizable, totally secure, and incredibly robust. It is the way companies will manage their businesses tomorrow. With ERP, you can assimilate transactions of any pulse of the entire organization, all the time. This drives costs number of your company's branches into one system. ERP can be completely web-enabled and from any type of software on any platform, you can deal with your entire business by exception. ERP modules are a most excellent way to integrate all the departments. It is like a four-wheeler which can not shift single steps without its underneath, for ERP the underneath are its modules which sometimes also known as components. These modules enables all the employees of an enterprise to operate like CEO, giving them the tools, information, and insights they necessitate detecting problems earlier and taking action faster. To facilitate the easy handling of the system the ERP has been divided into the following core subsystems as shown in *Figure 5*.



Source: Adopted from Joseph. G. & Goorge. A 2002

Figure 5: The ERP Learning Community Framework

a) **Finance**: ERP takes care of complete financial accounting of the enterprise over the web. It maintains all the books and records that are essential for proper bookkeeping and accounting. All transactions affect and update the entire system, and the entire reporting is on the fly, for the most accurate information

at all times. ERP helps you to manage all kinds of taxes, bank reconciliation and everything else that is required for efficient and complete financial accounting. Thus, financials provide real-time visibility into financial results, minute-by-minute control over expenditure, and guidance for better decisions,

b) **Human Resources**: Handling Software for personnel-related tasks for corporate managers and individual employees of the organisation. Examples: human resources administration, automatic personnel management processes including recruitment, business travel, and vacation allotments, payroll handles accounting and preparation of cheque related to employee salaries, wages, and bonuses. Thus, human resources offers comprehensive HR solutions, from recruitment to compensation to work-force development

c) **Manufacturing and Logistics**: A group of applications for planning production, taking orders, and delivering products to the customer. Examples: production planning performs capacity planning and creates a daily production schedule for a company's manufacturing plants. Materials management controls purchasing of raw materials needed to build products.

d) **Purchasing**: Empower the Purchase function just like sales, indents, and orders. ERP covers all aspects of production, including issues quality control, material receipts, purchase invoices and production receipts, multiple bills of material. Thus, purchasing saves the time by simplifying and improving vendor evaluation, performance tracking and quality examination.

e) **Production, Planning and Control**: ERP enables you to plan for material requirements based on a production planning process. The system reports inventory requirements based on work orders initiated, stocks committed and existing stocks. Thus, PPC provides all possible reports and analysis, which facilitates in managing and keep good control of inventory.

f) **Multi currency and Forex**: ERP supports accounting for multi-currency operations, with exchange rate tables, transactions in any currency, accounting and reporting in all currencies, and accounting for forex gains and losses.

g) **Business 2 Business (B2B)**: ERP is a virtual portal that can be accessed by customers, distributors, suppliers, and auditors. Anyone with a computer and a modem, and the necessary access permissions, they can place orders and monitor deliveries, and view account statements. To improve your service efficiency you can allow your business associates to manage their own interaction with your enterprise. All reporting can be individual, grouped, or instantly consolidated across the enterprise.

h) **Funds Management**: ERP enables you to manage funds efficiently. For each wing maintains your complete customer database and does kind of transaction type you may specify its effect on funds flow.

i) **Marketing, Sales and Distribution**: Helps to optimize all the everyday jobs and activities carried out in sales, delivery and billing. Key elements are: pre-sales support, inquiry processing, quotation processing, sales order processing, delivery processing, and billing and sales information system. This module also includes a Point-of-Sale, which comes under retailing, can optimize the sales figures and also facilitate in having more delighted customers. Billing system with barcode label provides better reading, printing, quick billing and collections.

2.8 DISTINCTIVE WAYS OF IMPLEMENTING AN ERP

A properly implemented ERP system can convey good results & dramatically enhance the aptitude to diminish costs, run leaner, and endow with good customer service. These are distinctive ways of implementing an ERP and following are the implementation approaches:

- **Phased implementation approach:** This implementation approach is also known as Modular Implementation. The system of modular implementation goes after one ERP module at a time. This limits the capacity of implementation usually to one functional department. This approach suits enterprises that do not share many widespread processes across departments or business units. Independent modules of ERP systems are installed in every unit, while integration of ERP modules is taken place at the afterward stage of the project. This has been the most usually used methodology of ERP implementation. Each business unit may have their own 'instances' of ERP and databases. Modular implementation trims down the risk of installation, customisation and operation of ERP systems by reducing the scope of the implementation. The successful implementation of one module can promote the overall success of ERP projects.

- **Big-Bang implementation approach:** This requires simultaneous implementation of numerous modules of an ERP packages. Enterprises outline a grand plan for their ERP implementation. The installation of ERP systems of all modules happens transversely the entire enterprises at once. The big bang approach has the prospective to condense the integration cost if it's executed methodically and cautiously. This method dominated early ERP implementations; it partially contributed to the higher rate of breakdown in ERP implementation. Today, not many companies dare to endeavor it anymore. The hypothesis of this implementation method is treating ERP implementation as the implementation of a big information system, which typically follows SDLC (Systems Development Life Cycle). But ERP is much more than a conventional information system because the implementation of ERP continuously calls for the realignment of business processes. Many parties concerned in ERP software systems are not IT professionals. ERP more than automates existing business processes and alter the business processes.

- **Process-Oriented Implementation:** This method of implementation focus on the support of one or a few critical business processes, which involves a few business units. The initial customization of the ERP system is limited to functionality closely related to the intended business processes. The process-oriented implementation may eventually grow into a full-blown ERP system. This approach is utilized by many small to mid-sized companies whose business processes are not too complex.

- **Vanilla implementation approach:** In another implementation approach that focuses on minimal customisation of the ERP packages.

2.9 GUIDELINES FOR ERP IMPLEMENTATION

1) **Understand your corporate needs and culture:** An ERP implementation will bring a change in the roles of different departments and responsibility. In short, it will result in a change in the existing power structure.

2) **Complete Business process Change:** ERP can change the whole outlook of business by fully reengineering it and giving it new shape and direction, which could be unimaginable.

3) **Provide strong Leadership:** Leaders plays a very vital role in making a destiny of followers, so while selecting a team leader/project leader, this point has to be kept in mind.

4) **Choose a balanced team:** The system environment of today's ERP solutions is complex: RDBMS, servers, networking, LAN, WAN, etc. There will be no longer a lot of documentation to specify the requirements. These will be on-line, as an integral part of the package. So the team should be balanced in order to rectify the error.

5) **Selecting a good implementation methodology:** It is advisable for the project leaders to set out clear and measurable objectives at the very beginning and review the progress at intervals, as the implementation progresses**.**

6) **Train every one:** Since this ERP package is not confined to specific people but a beneficial to whole organisation so as far as training part is concerned it will be given to all and not restricted to few as it is indirectly going to benefit the organization alone.

7) **Commitment to adapt and change:** An ERP implementation should not look upon as a short distance run. It's an on going process. It has wide implications, and will impact the future of the company for many years to come.

2.10 PRACTICALITIES IN AN ERP IMPLEMENTATION

a) **Inner Practicalities:** The key practicalities in an ERP implementation are the internal preparation. Whether or not a project is successful, depends to a noteworthy extend on an adequate amount of internal preparation.

- **Be acquainted with your necessities:** Nobody knows your business better than you accomplish. Before calling in vendors, the groundwork within the enterprise is vital. This will not only get geared up to appraise the vendors and applications more effectively, but will also facilitate the enterprise to get better utilisation of any system.
- **Fundamental Point:** Distinguish all problem areas in the current work process and list transaction that seem to entail special processing from the general process, sales invoices that can not be traced to a sales order, which could pose a trouble in certain types of businesses. Test out the prospect of simplifying procedures and identify areas of duplication of effort. Assemble user complaints of the existing system and categorize them accordingly into sales and purchase. This could be valuable source for evaluating alternative systems. Accumulate information regarding the requirements for reports at various levels of management. If the operations are extend across a region or are global, it has to be considering using one system at all locations, and vendor should have the proficient of supporting the company at all locations. The present hardware infrastructure obtainable has to be checked.

b) **Outer practicalities:** The new economy and the extended enterprise are the key external factors that have motivated and sometimes pushed some companies to implement an ERP system. A psychological effect also plays an important role on the ERP implementation, where a company takes a decision driven by the phenomena and not necessarily by its own needs.

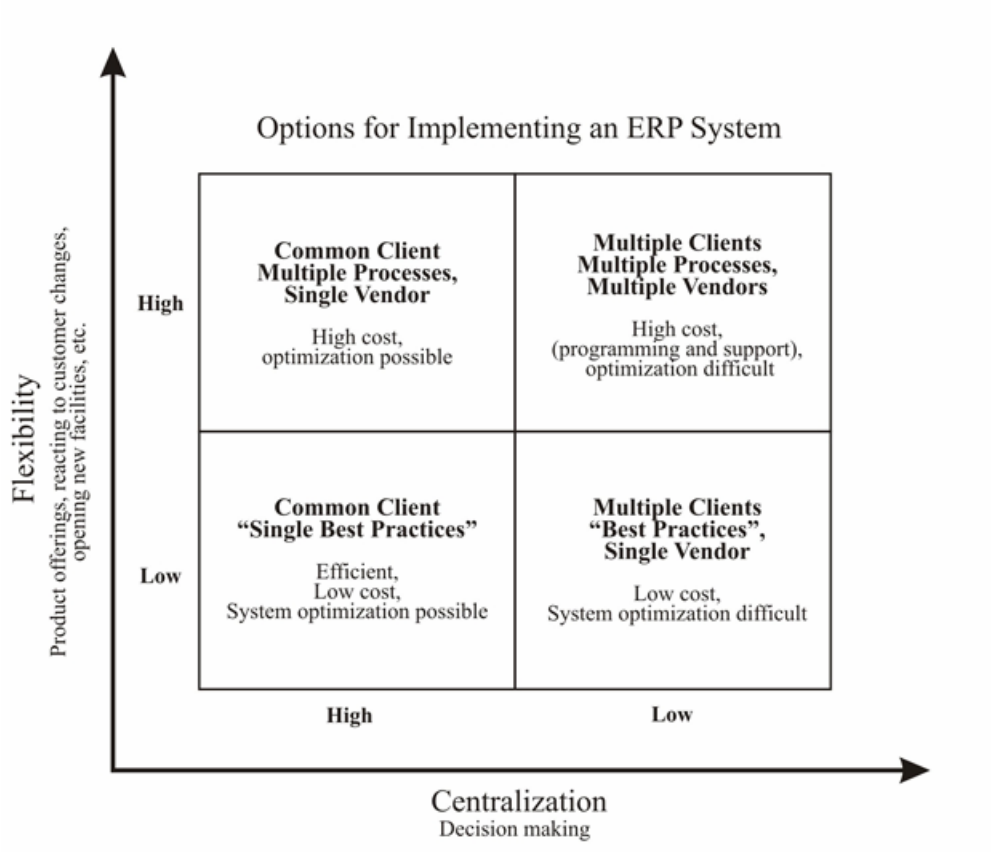
2.11 OPTIONS FOR IMPLEMENTING AN ERP SYSTEM

Flexibility means nothing but customisation. Say there is one institution XYZ Management College that is a pioneer name in the field of academics and now it had expanded into the FMCG business and the ERP package implemented is BaaN IV ERP software. At this juncture, flexibility with respect to this is that, it is the single software, which can deal with both the manufacturing organisation and academic institution.

Centralisation: It could be so much centralised that all the departments are streamlined and decisions will be taken from one place.

X- Axis => Centralisation
Y- Axis => Flexibility

Case-1	High Centralisation- Low Flexibility
Case-2	High Centralisation- High Flexibility
Case-3	Low Centralisation- Low Flexibility
Case-4	Low Centralisation- High Flexibility



Source: BaaN IV ERP software

Figure 6: Option for implementing an ERP system

2.12 CONQUERING IMPLEMENTATION OF ERP

Enterprise systems are all about the enterprise and not about systems. Its success greatly depends on the responsibility of top management and active participation of the HR people. The popular notion is that implementation of an ERP is a technology decision. In fact, it is a decision that preferably should be based on business needs and

benefits. The success of an ERP solution depends on how quick the benefits can be reaped from it. This necessitates rapid implementations, which lead to shortened ROI periods. Traditional approach to implementation has been to carry out a Business Process Re-engineering exercise and define a "TO BE" model before the ERP system implementation. This led to mismatches between the proposed model and the ERP functionality, the consequence of which was customisations, extended implementation time frames, higher costs and loss of user confidence.

- **Implementation strategy and approach:** Organisational readiness and preparedness is what makes the key difference between success and failure. Any ERP implementation brings a transformation in varying quantum; hence, senior managements commitment to change management process and piloting the ERP implementation becomes completely necessary. Over a period of time, the additional functionalities that are available in the ERP can be implemented and by that time, the organization would have tasted success of the implementation. The end-user participation and ownership of implementing the ERP is a notable paradigm shift compared to the conventional software development process. Implementation strategy is context dependent. So what is successful in one company may not yield similar results in another organisation. Therefore, the strategy and approach to implementation is a key enabler for successful implementation.

- **Start up education:** The simplest and most cost effective education method is to set up either a 2-day corporate training in the company or at a convenient local venue.

- **Continuous communication:** The success of the ERP initiative, on the softer side, can be accredited to two things, first, in all the communication about the project, a exercise of tying central messages and specific department objectives and needs back to the overall company. Second, a habitual mix of efforts to include everything from conducting workshops, publishing newsletters and holding focus groups to organising lunch time discussions and traveling road shows each designed to suit dissimilar stages across the implementation life cycle.

- **Forming the team:** Selecting the right project leader is as important as selecting the right package. Core team leadership is a full time assignment. Team leaders should know the business well and have cross-functional experience. They should also be politically savvy, have credibility within the organization and be good communicators, and, of course, be from the business side and not the IT management. The team is also as important as its leader. The apex management must make sure that the best and the brightest join the team.

- **Project planning:** An important task is the preparation of detailed 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 time schedule, ownership and responsibility, resource requirements and critical success factors for each phase. The milestones are as follows and thus may be included in project plan that is Training of project team members, Mapping of business onto the software, Function-wise implementation, Customization, Uploading of data, Tests run, Parallel run, Crossover, etc. IT projects are essentially systems integration projects. They are complicated and require attention on issues such as the implication of even the slightest change. The project planning should also lay emphasis for determining the effort (in man-months man-hours) required for carrying out the various activities. It is important to: (a) scope the project, (b) estimate the step-wise and task-wise man-hours required, and (c) preparing a schedule. These all will lead to project plan

preferably using project management tools like network charts, project management software, PERT/CPM.

2.13 DYNAMICS THAT SHAPE THE PRICE TAG OF ERP

You don't have to be a specialist to be acquainted with that, ERP is one of the most precious technology initiatives that an enterprise can implement. While it is very intricate to endow with global costing guidelines, there are some vital considerations that can smooth the progress of you to guesstimate your total expense for implementing ERP. Here is an overview of four cost dynamics associated with staffing during an ERP implementation. These dynamics will likely weigh into your decision about whether you should purchase a packaged ERP system from a vendor or if you should custom fabricate an ERP solution in-house.

- **Dynamics A- Plan for human costs:** The costs of installation, implementation, and data migration generally run about three to four times the original cost of the packaged ERP software. For example, if your software costs $2 million, you can expect to pay an additional $6 million to $8 million for consulting services to get the system into production, which sometimes considered as hidden costs.

- **Dynamics B- Consider remote consulting:** If your organisation is located in a major metropolitan area, you will likely have lower consulting costs. For example, an ERP project in Jamnagar, Gujarat may cost double the rate of the same system developed in Los Angeles. This factor is here because the rates are more steady and competitive in larger cities. Organisations located in smaller cities may have to compensate their vendor for consulting services at a rate much higher than the market average. If your company is located in a smaller city or rural area, you may want to use off-site consulting and hire consultants who work from home.

- **Dynamics C- Transition your IT staff:** In a recent survey it had been determined that end-user adoption of an ERP package was the greatest anxiety among IT professionals. Analysts authenticate that training end users is a noteworthy expense. In a recent report on SAP end-user training, Gartner suggests that, at a minimum, enterprises should allocate 17 percent of the total cost of an ERP project to training. Gartner research also establish that companies that budget less than 13 percent of their costs for training are three times more likely to see their ERP projects run over time and over budget when compared with companies that spend 17 percent or more on training. But end users aren't the only staff members who should concern you. Staff turnover among developers is common in organisations that are implementing an ERP solution. If you desire to purchase a packaged ERP solution, be prepared for staff turnover. In many cases, programmers will be excited to learn a new technology, while others are reluctant to clinch change. On the average, IT managers can anticipate to lose up to 40 percent of their IT staff, primarily those programmers who are unwilling or powerless to master the new software.

- **Dynamics D: Avoid the illusions of false savings:** Many managers choose to purchase a prewritten ERP solution under the hypothesis that because the software is prewritten, they can rationalise their IT staff. In reality, prewritten packages require IT personnel to locate bugs and apply patches to the packaged software. There are seldom any real human savings associated with adopting a prewritten ERP package. In practice, your IT staff will stay behind about the same size, with your old programmers being replaced with application specialists.

2.14 ERP BENEFITS

The ERP system has an enormous payback and it is 100 times better than a conventional packages. Some advantageous features of ERP system are: Communication with Suppliers/Customers can be automated, efficiency is aided by reduced manual entries, dependency on human resource eliminated, integration of all function already established, readymade solutions for nearly all the problems, supplier and customer can intermingle on-line at any time, reach multiple locations through one system, complete integration of systems across all functions, pace in transmission of information etc. The few other elaborated benefits are:

- **Automatic Updation to new Technology:** ERP systems can automatically update itself according to the new technology.

- **Enhanced flexibility:** ERP is multi-module application software and is very flexible and frequent, e.g., production manager can access ample number of information through his lap-top of marketing department by sitting at his home.

- **Improved customer satisfaction:** with the help of ERP, customer have an individual login name and password and they are able to solve their grievances by Internet alone specifically no need to waste time in visiting personally.

- **Information Technology:** Reduced support costs. Reduced infrastructure costs.

- **Lead-time minimization:** "time gap between ordering the goods and its delivery is known as lead time" so if this could be minimized then there will be reduction in inventory cost burden.

- **Process Improvements:** Eliminate redundant transactions and multiple reconciliations; extra efficient job rotation process; more efficient staff and succession planning.

- **Related initiatives:** Better focus, reduced spending.

- **Strategic Direction:** Improved resource allocation, More flexible organisation, and better future decision making.

Check Your Progress 1

1) "Enterprise systems are all concern with the enterprise and not about systems. Their success to a great extent depends on the responsibility of top management and energetic participation of the HR people. Implementation of an ERP is not a technology decision. In actual fact, it is decision that ideally should be based on business needs and benefits". Explain and elaborate the above statements in the lights of ERP systems?

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2) What are the strategies used for successful implementation of ERP application?

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3) What are the objectives of implementation of ERP? Explain distinctive ways of implementing an ERP. In short throw some light on the guidelines for ERP implementation and practicalities face during implementation?

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4) How ERP systems have changed the work of IT organisation?

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5) What do you mean by resource and how it had a relation with ERP?

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6) From where ERP had been originated and what are the concepts behind it beginning?

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7) What are three major reasons to undertake ERP?

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8) What do you mean by components of ERP?

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2.15 CUSTOMERS EXPECTATION IN ERP PACKAGES

Expectations in ERP packages are a birth right for customer as they are a going to be the owner of the product. The customers have to be very cautious and imagine a lot while finally locking the product. The expectations they use to have regarding the product is elaborated and explained one-by-one.

- **Financial health of the company:** Implementation of ERP can give an organisation a new shape that is more emphasize on the financial status, so the organisation awakes about that whether they are moving towards southward direction or in a northward direction.

- **How big the company is and whether its main focus is implementation alone?** ERP's user's total strength and size plays a very vital role while considering all the factors as vendor's core benefit is not only to emphasise on implementation and go out, but to build long-term relationship in order to tap more business i.e., after sales service, more implementation at different places.

- **How easy/fast is it to get skills on the package?** Again this is a question, which varies from company to company and also depends on the level of highly skilled and technocrats employed by the organisation thus whole effort is required by user itself.

- **Is implementation of the package easy:** This is something, which can not be answer in one word i.e., yes /no it is amazing which requires cooperation from user as well as vendor? So it will be an easy job if you are serious and toughest when you take it lightly.

- **Is the package compiled:** It covers all areas of the department starts from production then marketing, purchase, research and development and many more, specifically it has to be very exhaustive.

- **Is the package localised:** Now, the million dollar question is about the SAPAG which is a German based company and has a corporate office at that place alone and if somebody keen to purchase a package who resides in India what strategy the SAP is going to follow as far as service part and other up gradation issues are concerned.

- **Is the package too old or too new:** This includes many other things and gives answers to a lot of questions like latest trends, present platform, also its competency like Y2K compliant? VAT ready etc.

- **Number of implementations in the country:** More the implementation more the experienced ERP vendor are, consequently leads to better after sales service and grasp market share. Take an example of Tally or other financial package such as wings, Accpac, etc. when we actually go for purchasing why we give priority to tally answer is only due to its market share and ample number of implementation.

- **Quality of the consultants hired:** Consultant whose role basically is to bridge the gap between the vendor and the user as a liaison, however same time consultant job is also to provide training, giving knowledge to both user and vendor about the latest trend and also guide them about the in-house development of ERP or purchasing from outside.

- **Who is supporting the package:** Under whom banner the package had been explored, are they the brand name or a layman in the field of ERP. If they are new player what USP's they have followed so the user can be extracted like Oracle- master in production module, but the new player come-up with R &D module which no other vendor have.

2.16 STUMBLING BLOCKS

ERP System, though a boon to the corporate world is again not foolproof. However, this system suffers a number of problems including:

- **Confusing and difficult:** ERP Softwares are a gigantic package and consists of numerous modules, so it is very difficult to understand its characteristics but once you understand it becomes easier to work.
- **Customisation is costly:** Customisation is obviously costly, for instance when report is needed to configure, one person expected from the ERP vendor's side has to come and give support. Hence more the customization /configuration greater should be the service cost charged by the vendor.
- **Customisation is time consuming and in many cases impractical:** ERP is not a one or two day job it is a regular process it requires years to complete as many things have to be incorporated into it i.e. mindset, office automation, etc. There is clause of hidden cost, which always pinches the user.
- **Decline of an individual's monopoly over information monopoly:** As information can be put into the server and rights and authority can be given to appropriate people who can access it so that production department data cannot be confined to production department people. It can be shared by marketing department people with the help of login name and password thus cutting short time and reducing paper work.
- **ERP engenders a host of fears:** It engenders a host of fears on some of them are Job Redundancy. There is misconception among the employees that ERP can be a threat as for upcoming employment, this is not absolutely true because the persons who are not working hard have to be more cautious as performance appraisal chart is regularly maintained and monitored. Therefore, for people who take no pain there is no gain.
- **Geographic Restriction:** The ERP packages are readymade packages made by the ERP vendors and can be customized according to the user need, thus sometimes not suits individual persons who are geographically away.
- **Implementation of an ERP project is a long process:** Like customisation implementation is also a long process because there is ample number of departments and ERP can come in full-flow when the entire department should be fully compatible with ERP integration.
- **Platform restriction:** Platform restricts could be the another obstacles upto some extent as they are using different operating systems.

Major stumbling blocks take account of the technical issues around providing adequate and protected access to ERP from heterogeneous locations and platforms.

2.17 ERP SYSTEM ACCOMPLISHMENT

Though ERP systems suffer from certain drawbacks or rather we can say certain obstacles but its merits supercode it demerits. Few accomplishments, which motivate ERP to follow the 24x7 culture. While ERP systems are generally the most expensive institutional information system implemented by most institutions over recent years,

they are not alone. At most Universities there are other information systems filling organizational needs that ERP systems do not address. Course management systems (CMS), such as WebCT and Blackboard, are usually the next most expensive and far-reaching example. Other institutional information systems may include: timetable management software, assignment tracking software, bookshop management software, library catalogue systems and various infrastructure systems such as student and staff authentication. While the label of this paper mentions ERP systems, the basic premise of this paper is that a gap exists between the functionality of all institutional information systems and the needs of the staff and students. The few USP's of ERP systems are:

1) **Web-based student records:** Provides staff with access to student records data including course lists, student photos, and student enrolment details.
2) **Timetable generator:** A web application that allows a student or staff member to generate a personal timetable.
3) **Minimum course presence:** The provision of a consistent minimal web site for every course offered by Infocom independently of academic staff and as early as possible.
4) **Informal review of grades (IROG):** Web-based processing of student requests for an informal review of a final grade.

2.18 STEPS FOR AVOIDING PITFALL

An ERP system will perhaps be one of the prime investments you will make, so it's critical to the enterprises to do it accurately. The worst thing you can do is most often by picking the wrong software, make a team to undo the mess, and then relocate for a correct "aim". We have all read the horror stories of enterprises that acquire implementation decision in haste by initially purchasing software before they were ready.

- **Classify the Methodology**: Choose on and stick to a lucid, analytical methodology. The methodology should guide you through each step in the selection process and diminish the emotional proportion in the selection. The processes include distinctive phases for completing a thorough business-process review; evaluating vendors; managing software demonstrations; supporting the eventual decision-making process; and structure the supporting implementation plan, together with costs.

- **Plot to Business Processes:** Don't start with software demos. Begin with your business processes, and then map out your feature/function requirements through a series of business-area reviews, the creation of process maps, an assessment of "to be" process changes, and the development of a requirements matrix with supporting business scenarios.

- **Be conscious of Organisational Chemistry:** Use your instincts when it comes to the organizational chemistry between your enterprises your consultants, and your selected vendor. You want a consulting organization that you sense relaxed with, one that can extract the input it needs from your in-house team members. Be on the watch out for a solution that sounds too trouble-free or will be done in a month. You are making a critical decision this has to be taken into consideration always.

- **Elect to choose a well-built Team:** Set up a steering committee with the president or CEO and heads of sales, finance, and operations, and sanction them to make decisions.

- **Scrutinize Potential Vendors:** Accomplish a rigorous software-selection process, and situate potential vendors under the microscope. Think about more

than just features and functionality a financial stability, technology strategies, long-term support, implementation successes, and corporate culture, are key factors.

- **Appraise Business Processes:** Be equipped to alter some business processes if you want to minimize or eradicate customization. Even the smallest enterprises have to make process compromises in their final solution.

- **Bargain Customisations:** Negotiate all of your customisations before signing a contract. If you do have to customize, you want to be acquainted with up front what it will cost and more important discuss about hidden cost and then incorporate that as part of your contract.

- **Modernize Infrastructure:** Plan for an infrastructure improves to sustain the new system. Some ERP implementations require the redesign of your network; make sure you identify what you require to do and how much it will cost.

- **Predict Elaborately:** Elaborately look after your implementation plan. The goal is to foresee now, to eliminate implementation setbacks in terms of both cost and time. Implementation will always be preferred or rather become mandatory with the Vendor team i.e., make convinced that your software vendor has a role in your implementation. The software vendor has the most vested interests in making clear-cut that you are a pleased customer.

2.19 SUGGESTIONS TO AN ERP VENDOR

Deciding by the vendor to supply ERP software is probably the most complex decisions in the whole ERP Project, so you have to incorporate the following point in mind as ERP Software being so expensive, one cannot manage to pay for to make mistakes and correct it later. They have to be very particular in taking decisions, that is, who are the key man and whose benefits are addressed. No doubt that ERP-software is a foremost requisite for a big corporate explicitly who are going to implement it in a near future. The suggestion to ERP-vendor is that they could bestow much emphasis to make their product qualitative, competitive and price effectual rather than contemplate in selling because automatically the sale would come to them once the product is acceptable. Key suggestions that have to capture into account are:

- **Try to sell products in module wise and according to need:** Specifically, if the concern is marketing oriented then force to sell the marketing module of ERP first, if production oriented then the Inventory Module.
- **MoU (Memorandum of Understanding):** Some MoU or issue base alliance is required between the two or more organizations, in order that in short span of time they can be able to fabricate quality product and attract customer. Like sharing of R&D (Research & Development) lab and many others overlap work so to make the product more competitive and cheaper as well.
- **Try to cut-off the existing price** With the intention that vendor inclination is on selling multiple numbers of copies and attain a market share i.e., they will try to sell more licenses.
- **Installed that portion of module which required utmost:** Generally full fledge installation requires years to complete so it is advisable both to vendor and user to installed that portion of module which required utmost. Like, HLL is a FMCG their core area is marketing and selling so they walk off for sales and marketing module first.
- **Proper implementation of an ERP project:** Proper implementation of an ERP project is the most crucial activity in the life cycle of an enterprise. This requires careful planning and teamwork.

2.20 FAQ- FREQUENTLY ASKED QUESTIONS

FAQ-1: Explain what problem the company will face if they develop ERP package in-house.

Soln: ERP packages are software-integrated packages with ERP concepts. ERP vendors generally develop ERP packages. Developing ERP package in-house will let a company to face major problems of cost and time. Developing in-house ERP packages is very complex, time-consuming and extremely expensive. Developing packages is the headache of the ERP vendors. They are specialised at such works and they have made developing packages their own business. Any organisation should concentrate on its own products and its better quality rather than wasting time and money on developing ERP packages. Developing ERP packages should then be left at the disposal of the ERP vendors. Thus, in house ERP packages require much resources and time and moreover its failure may leave the company out of business. So taking such a big risk must always be avoided because it may create a major problem in the business environment of the company.

FAQ-2: What Makes ERP different?

Soln: Traditional computer information systems used by many businesses today have been developed to accomplish some specific tasks and provide reports and analysis of events that have already taken place. Example is an accounting general ledger system. Occasionally, some systems operate in a 'real-time' mode that is, have up to date information in them and can be used to actually control events. A typical company has many separate systems to manage different processes like production, sales and accounting. Each of these systems has its own databases and seldom passes information to other systems in a timely manner. ERP takes a different approach. All applications access common data. Real events in the business initiate transactions. Accounting is done automatically by events in sales and production. Sales can see when products can be delivered. Production schedules are driven by sales. The whole system is designed to be real-time and not historical. ERP structure embodies what are considered the "best business practices". A company implementing ERP adapts it operations to it to achieve its efficiencies and power. The process of adapting procedures to the ERP model involves "Business Process Re-engineering" which is a logical analysis of the events and relationships that exist in an enterprise's operations.

FAQ-3: What types of people become ERP certified?

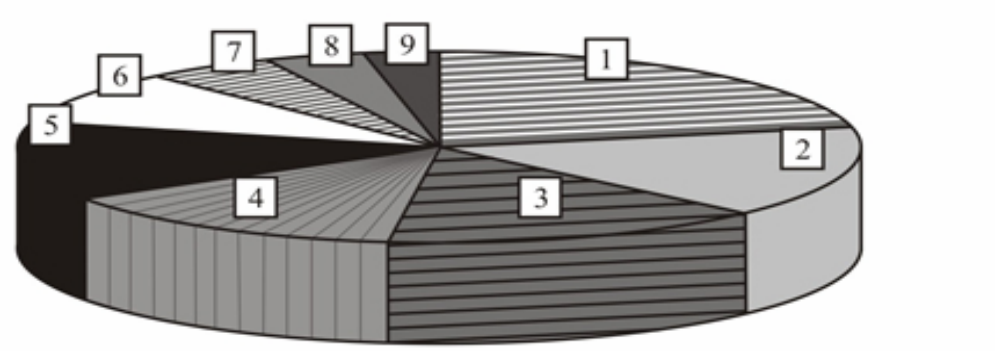
Soln: A wide range of people chooses to follow the ERP certification for a variety of different reasons. In short, almost anybody who works in or around the ERP industry may choose to become ERP certified. Some common types of people that choose to become ERP certified include:

- Authors and Journalists
- CEOs
- College Teachers
- Consultants
- End Users
- ERP Sales Personnel
- ERP Team Members
- ERP Trainers
- Functional Managers
- Implementers
- Programmers
- Project Managers
- Senior Executives
- Students
- Help Desk Support

2.21 CUSTOMER RELATIONSHIP MANAGEMENT

Preserving existing customers and providing improved services to expand the loyalty is termed as CRM. The rationale that business exists is their customers. Developing rapport with customer and supervising it resourcefully with the intention that it is valuable to both the customer and the business is an imperative goal. CRM facilitates business in accomplishing this goal. In today's marketplace winning and sustaining muscularly built customer relationships can make the

difference between success and a failure. Faced with global competition and short product lifecycles, organisations require making accessible their customers with the topmost possible standard of service to keep hold of business. This means knowing the customer's needs, preferences, buying history and potential future purchases. CRM is software, which facilitates an organisation to oversee its customers healthier. Company might have a database about its customers that make available information about them in great multiplicity. With the assistance of CRM software, sales people and service representatives can access this information and bestow with customers with customised service as per customer needs with sky-scraping attitude to product plans and offerings, jog the customers about service requirements, identify what other products a customer had purchased, and so forth. CRM can also be web enabled thus adding greater value to the entire progression. CRM (Customer Relationship Management) applications smooth the progress of the capture, consolidation, analysis, and enterprise-wide dissemination of data from existing and potential customers. To build up the full benefit of CRM, it must be seen as combination of people, process and systems rather than just IT application. Customer relationship management (CRM) is the most talked about of the three enterprise applications that are the focus of this unit. As the economy remains lethargic and customers remain cautious, the need and aspiration to get closer to customers are the primary means of differentiation in the marketplace.



1. 22% Customer Service Support
2. 15% To increase the effectiveness of direct sales force
3. 15% In support of business - to - business activities
4. 14% In support of business - to - consumer activities
5. 13% Call center management
6. 09% In-bound call center operations
7. 05% Out-bound call center operations
8. 04% Others
9. 03% Full automated operation (i.e. No CRM involvement, "light out")

Figure 7: Objectives for using CRM applications

CRM Classification

CRM application software can be normally alienated into five areas,

- **Customer Decision Support:** Customer decision support tools lend a hand to companies in decision-making. Elegant analytical tools are available, that can process hefty amount of data.
- **Customer Information Management:** Customer information management tools facilitate a single outlook of a customer across multiple channels. Customer information management tools make it achievable for customers, staff and intermediaries like contact center to share the same data about a customer across manifold channels.

- **Customer Interactive Management:** Customer interaction management tools, frequently called operational CRM. These tools facilitate additional effective interaction with the customer.
- **Systems Integration:** Systems integration tools permit companies to join mutually in their dissimilar business applications with CRM.
- **Workflow Management:** Workflow management tools augment the customer service by enabling automatic distribution and prioritization of tasks.

What does CRM Provide?

a) **Technology enabled selling:** Technology enabled selling helps companies understand how technology can assist sales and improve bottom line. TES integrates customer information and transaction data. Implementing TES requires high level of integration with legacy systems and disparate hardware systems. TES has three sets of component building blocks.

   a) The first building block customer information. This information is situated in company databases and manipulated either by legacy or ERP systems.
   b) Companies should have infrastructure of systems like telephones, faxes, personal computers and other devices, in place that would allocate company to communicate and demeanor business with customers.
   c) Finally the third is a set of advanced applications, often specific to industries.

b) **Call centers:** Call centers are playing an increasingly significant responsibility. They are emerging as main point of contact, providing service to customers, business partners and employees. Call centers execute the following five functions:

   a) Engender reports for root cause analysis.
   b) Formulate recommendations to customers concerned with the product/service which suits the customer needs.
   c) Make available more information about product and services.
   d) Obtain calls and monitor progress on customer requests and problems.
   e) Resolve issues or refer problems to subsequently level of service.

   Call centers have the ability to be linked with voice, video and data together. Illustration of Polaroid is exceptionally interesting. Polaroid has an after sales service call center in Scotland. Customers across Europe can call into that call center. The computer identifies the country of incoming call and routes the call to representative who speaks that language.

c) **Internet telephony protocol:** This allows customers to speak to the customer representative at the call center while browsing the company's web site. The customer can contact the call center simply by clicking a hyper link. At the other end the call center agent can pull information about customer's history, products, previous service calls if any.

d) **Better Field service:** Companies can make available better field service using call centers. Call centers can forward customer complaints to representatives in the field. Enabled field service sales representative can get up-to-date customer and product information via Internet. Sales representative can get information about product designs and repair manuals. They can ensure outstanding customer queries, service calls, and customer history all while in field. Customers can not only download product documentation but also communicate with other users. It has as database that can provide answers to questions.

e) **One to one marketing:** One-to-one marketing means that business knows' each customers tastes and preferences allowing companies to customize customer visit.

By providing a personalized experience to customer you can accomplish better customer service, retain customers and develop lasting relationships. Amazon is one such example. Amazon knows its customers reading tastes and suggests books that meet up that interest. CRM software facilitates companies to accumulate, retain, and analyse information about individual customers allowing organisations to accomplish this. Call centers and internet make it easy for companies to correspond with customers. It makes easier for them to track buying behavior and keep hold of customers.

Comparative study between ERP and CRM

Since ERP and CRM both talks about integration and both are enterprise oriented, still there are some discrepancies. The comparative study can make the picture clearer by Comparing ERP with CPM.

ERP: Enterprises conventionally focus on processes and technologies, with purpose of optimizing these processes using MRP and ERP systems. The focus was always inward.

CRM: With Enterprises becoming more customers oriented, they are realizing the benefits of including customers and business partners in the value chain. Enterprises are becoming more externally focused.

ERP: Enterprises use ERP systems to integrate and deal with distinguish operations and process. ERP system integrates functions like Accounting, Human Resources, and Inventory Control to give an integrated enterprise.

CRM: CRM Enterprises have started to realize the 'value of strategic extensions' like Supply chain management and Customer Relationship Management applications. These softwares enable companies to amalgamate.

ERP: Enterprises are replacing materials requirement planning with supply chain planning software as it enables companies to generate optimal plans for producing, delivering goods through collaboration.

CRM: Companies are integrating CRM software and other Internet based applications with ERP packages to create what is being termed as 'Extended enterprise'.

ERP: ERP systems handle core information related to company's business, customers, products, orders and employees and financial data. Extended enterprise allows the company to share this single source of information with all relevant parties. ERP can reach out suppliers and customer by means of Internet.

CRM: Applications like CRM and supply chain planning provide enhanced functionality.

Incorporated ERP & CRM Simultaneously in an Organisation

The major purpose behind jointly going for CRM and ERP is that, customer interacts with companies through variety of channels like phone, fax, mail, email, web sites, and wireless devices. Ensuring quality customer service and providing consistent information is main challenge for business. CRM packages can facilitate companies to consolidate information across dissimilar channel and present consistent information, irrespective of channel. The permutation and combination of ERP and MRP has helped organizations congregate data over years. Data collection isn't enough. It must be properly applied. CRM, Internet and technologies have created endless opportunities for tracking, leveraging this data tied up in ERP systems.

CRM Integration Points: Companies are suitably customer oriented. Providing excellent customer service and timely response is no longer a matter of preference but

a necessity for business. The winning businesses will be those who can delight customers and work together with business partners. CRM solutions assist companies to accomplish these objectives by leveraging the power of Internet, networking and ERP system and building a effortlessly integrated enterprise. The following Figure 8 can give a clear picture. Companies look forward to extend their capabilities by the two approaches:

- **Best-of-Breed Approach:** They can use best-of-breed approach tying CRM, SCM software provided by different vendors to their core ERP systems.

- **Single vendor Approach:** Else, companies can take a single vendor approach, implementing required systems provided by existing ERP vendor.

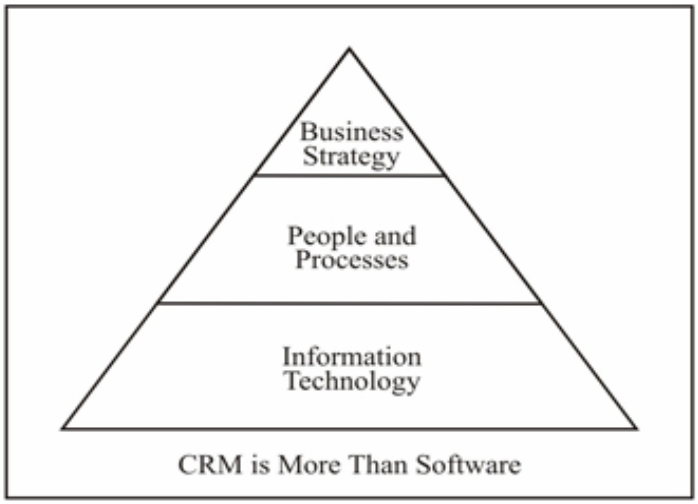


Figure 8: CRM is more than software

2.22 SUPPLY CHAIN MANAGEMENT

Supply chain management (SCM) helps businesses to enhance and understand the activities that endow with component level material for their finished product. For example, in the retail sector, wholesaler relationships are vital, and in the automotive industry, part supplier relationships can influence the manufacturer's capability to construct a car on time. By focusing on SCM, corporations can significantly get better operational efficiency. SCM seeks to help businesses control costs by uncovering the difficulties in their key relationships (e.g., with internal suppliers and external vendors). The fundamental matter is the necessity to understand customer demand and bring into line it with the supply side of the business. By doing this, organizations can condense or even prevent costly overruns and/or product shortages.

SCM software achieves these outcomes in a diversity of ways and a variety of implementations. Fundamentally, SCM links suppliers to databases that show forecasts, current inventory, shipping, or logistics timeframes within the customer organization. By giving those suppliers such access, they can well again meet their customers' demands. For example, the supplier can adjust shipping to make certain that their customers have the inventory necessary to meet their customers' needs. Suppliers can download forecasts into their own manufacturing systems to automate their internal processes as well.

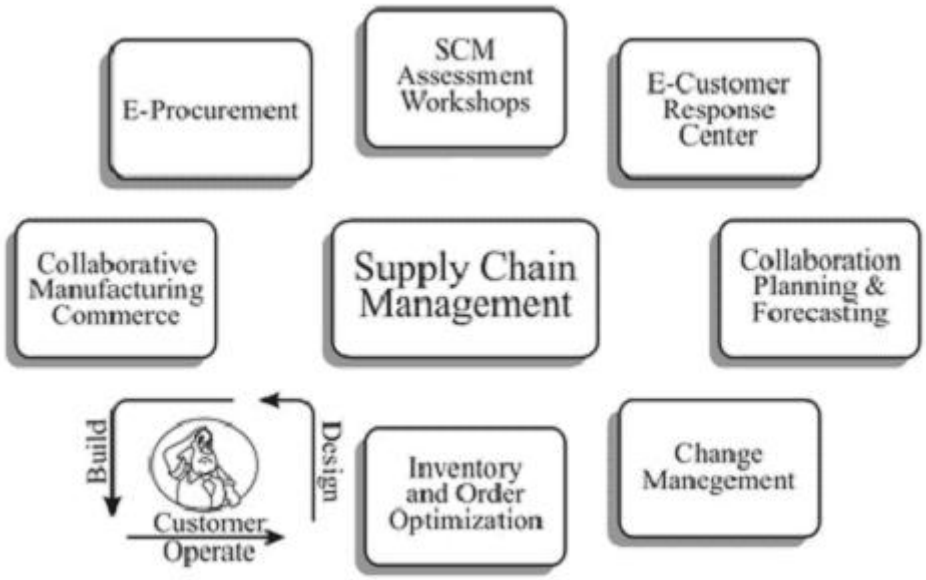


Figure 9: Supply chain management

Collaborative research on ERP integration with SCM

Implementing new software into your company's core businesses processes is a painful modus operandi. In the early 90's, ERP came of age. One and all had to have the functionality ERP packages promised. Since then, as Web and Internet technologies have matured, ERP packages on the front end, and Supply Chain Management packages on the back end, these packages have come into their own. One of the most enduring instructions of the mount and collapse of the dotcoms was their breakdown to recognize the magnitude of sound Enterprise Resource Planning & Supply Chain Management. The capability to deliver on time is perhaps the only differentiator between companies in an arena where the competitor is only a mouse click away. ERP is one such vicinity, which has revolutionized business environment from underneath to pinnacle. Information shows that fortune 1000 firms have or will install ERP system, which will boost the global ERP market from 675 billion to 2250 billion rupees, over the next 5 years. So far, ERP sounds like a great idea. Yet, switching to an ERP system is a bit like constructing a new-fangled residence to replace an aged cottage. You know you necessitate it, and you can envisage how much more functionality the new residence will have, but the aged cottage is paid for and hard to give up. In addition there's bound to be interference during the constructing process and of course some surprises along the way. Victory in today's manufacturing environment is no longer measured merely on the basis of how proficiently your plants can manufacture products. Rather, success is increasingly measured by how effectively and efficiently you can consistently congregate customer requirements. Meeting those ever-changing requirements demands the greatest enterprise solutions for your business – solutions built for manufacturers, by experts who understand manufacturers. ERP with SCM recommends a established enterprise software solution, optimized on and provided specifically the proper platform. The solution offers deep functionality for manufacturing execution and the other areas of a manufacturing.

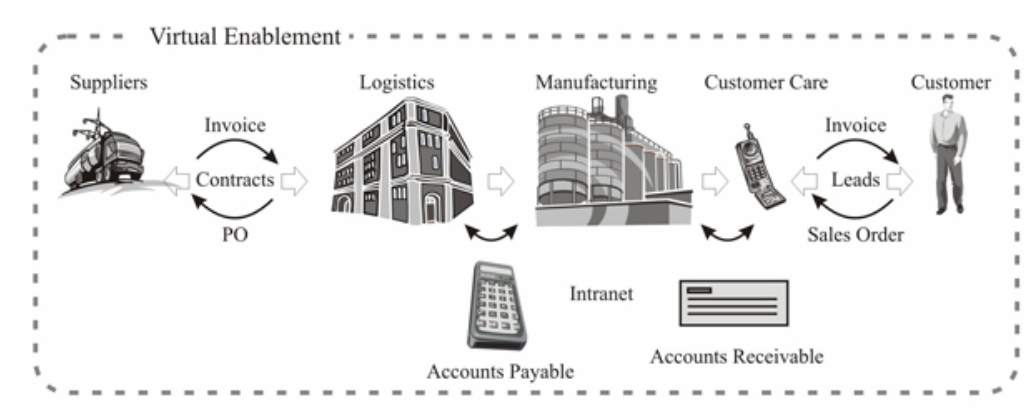


Figure 10: Pictorial presentation of ERP and SCM functioning

Importance of ERP in SCM

Traditionally ERP tools were not considered for SCM and resultantly, the information flow between various members of the supply chain was slow. This was because until the late 1990's the concentration of organizations was on improving the internal efficiency alone. Therefore, ERP systems also supported only such functionalities and the systems across the supply chain were disparate. The organizations however, soon realized that although internal efficiency is important, its benefit would be limited unless complemented by increased efficiency across the supply chain. They also realized that, faultless flow of real-time information across the supply chain was key to success in the emerging market scenario which was characterized by galloping advancements of technology, shorter product life cycle's etc. Therefore, organizations started integrating ERP applications with SCM software. This ensures that the efficiency was achieved across the supply chain and there is a seamless flow of information. ERP in such state of affairs, becomes a vital link in the integrated supply chain as it serves as the integrated planning and control system.
In summary, ERP applications help in effectual SCM in the following ways:

- **Share data:** They can create opportunities to share data across supply chain members, which can help managers in making better decisions. They also make available wider scope to mangers of supply chain by making available much broader information.

- **Real-time information:** ERP systems can provide real-time information, which can be great help in supply chain decisions. For example, ordering raw materials can be based on the inventory details provided by the ERP systems.

Web-enabled ERP and its impact on SCM

The web-based technologies have revolutionized the way business is carried on and supply chain management and ERP are no exceptions. In order to leverage the benefits offered by this new technology enabler, ERP systems are being "web-enabled." Internet allows linking of the websites to back-end systems like ERP and providing connections to host of external parties. The benefits of such a system are that customers have direct access to the suppliers ERP system and the vendors in turn can provide real-time information about inventory, pricing, order and shipping status. Internet thus provides an interface between ERP system and the supply chain members allowing real-time flow of reliable and consistent information. To illustrate a benefit of web-enabling ERP, such a facility allows customers to go on-line and configure their own products and get price information and immediately gets to know whether the configured product is in stock or not. This is made possible, as the customer's request directly accesses the ERP system of the supplier.

ERP vs SCM

The difference between ERP systems (e.g. SAP, Baan, People soft) and SCM systems has been subject to extreme debate. One of reasons for the same is that the ERP vendors are adding additional SCM functionality to their products while SCM vendors are also expanding their functionality, encroaching on the area handled by the ERP vendors. With the vendors of ERP systems and SCM systems adding new and more functionality, the divergences between the same have been distorted. For example, major ERP vendors are introducing advanced planning and optimization as an integrated component (also a component in SCM) of their system. In the following table, let us try to understand the main discrepancy between ERP and SCM systems at the moment available.

Table 2.1: ERP vs. SCM

Point of Comparison	ERP	SCM
1. Comprehensive	More elaborative	Moderately less
2. Sourcing tables	Somewhat still	Self-motivated
3. Complexity	High	Reasonably less
4. Functionality	Moderately less dynamic	Execute simulation of alteration
5. Processing Speed	Quite slower	Quicker
6.. Managing of Constraints	Considered in isolation to each other	Synchronized handling

Check Your Progress 2

1) Can CRM be ERP?

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2) How does Supply Chain Management evolves? Explain in brief the concepts of SCM?

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3) Distinguish between ERP and SCM.

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4) A supply chain management is a business approach that focuses on integration, and partnerships, in order to meet customer's need on a timely basis, with relevant and high quality products, produced and delivered in a cost effective manner?

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2.23 SUMMARY

In the world of networked markets, to be innovative, one needs not only to think out of the box, but also think more importantly about reaching equilibrium. ERP Systems helps organizations to maximize their growth & potential. ERP suites can improve and update corporate resource management, but the training and costs involved can be high-priced. ERP is one such vicinity, which has revolutionized business environment from underneath to pinnacle. If you throw a little light on the *Figure 11* there is an elephant, which had been compared with ERP system. Purpose is that ERP had got so much **height + solidity+ depthness**, which in general elephant possess. And whatever functions you are imagining you will search out by a click of mouse.

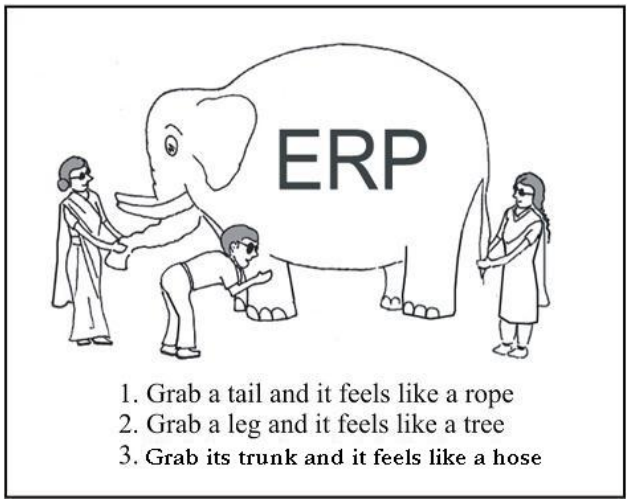

Figure 11: ERP is like an elephant

ERP deployment, management, and evolution are significant operational concerns in today's cost conscious business atmosphere. The performance of enterprise applications designed to streamline ERP processes and operations is dependent on the fundamental network infrastructure. Companies should take a holistic view of their mission critical application, networking environments and include best-in-class networking solutions. Enterprises have long made flamboyant statements about getting closer to their customers and streamlining operations. The ERP, CRM, and SCM applications and the organizations implementing them are at slightest in part, "bringing teeth" to those superior intentions. It is not a trouble-free process, though. In reality, the extremely publicized failures of these initiatives have in some minds polluted these applications and their possible benefits. However, more and more organizations are moving ahead with these initiatives, and the successful organizations will gain from higher margins, better customer relations, and improved back office operations. Organisations are only paying attention in deploying tools and applications that have a quantifiable impact on customer relations, supplier relations, and internal competence; this unit outlines three such tools. The future role of ERP systems may be far more decisive than the reasons for which they have conventionally been adopted. With the speedy emergence of wave after wave of new-fangled technologies, the accessibility of an effectual infrastructure on which to build may be one of the most important factors that facilitate and uphold future competitive advantage. Moreover, the lessons learned in the process of establishing this architecture may be invaluable in

concrete manner for technological innovations to move forward. This work has attempted to illustrate that the benefits of ERP systems, beyond well-documented subjective evidence, are rationally rooted in this theory.

2.24 SOLUTIONS/ANSWERS

Check Your Progress 1

1) (Refers to Section No. 2.12)

2) (Refers to Section No. 2.8 and 2.12)

3) (Refers to Section No. 2.5, 2.6, 2.7 and 2.8)

4) (Refers to Section No. 2.13 and 2.14)

5) (Refers to Section No. 2.2, 2.3 and 2.4)

6) (Refers to Section No. 2.4 and 2.5)

7) (Refers to Section No. 2.6)

8) (Refers to Section No. 2.7)

Check Your Progress 2

1) (Refers to Section No. 2.21)

2) (Refers to Section No. 2.22)

3) (Refers to Section No. 2.22 and Table 2.1)

4) (Refers to Section No. 2.22)

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