

## **Enterprise Resource Planning**

**Course No: MCA 608-EA**

### **UNIT 11**

#### **ERP Implementation:**

No matter what type of business you're in, implementing an ERP solution is a critical project that must be taken seriously. From concerns about cost and demonstrating ROI, to practical considerations about who will manage the process at your company, ERP implementation efforts require commitment by a project team and support by business leaders to ensure success.

There's no getting around the fact that ERP deployment is a major undertaking, but the process doesn't have to be painful. With proper planning and execution, implementing an ERP system should be a smooth process and quickly improve efficiency across your business. Here are some critical ERP implementation best practices to consider when selecting and deploying a solution.

#### **Select the Best ERP Implementation for Your Business**

Given the range of functions that ERP encompasses, it should come as no surprise that there are multiple types of ERP implementations. You can choose to build your own custom ERP and program it from the bottom up, though the cost and complexity of taking on such a huge project can make a do-it-yourself approach a poor one.

Or you can purchase on premise ERP software and install it on your company's computers and servers. Before investing in an on-site ERP solution, however, consider this sobering fact: Two-thirds of mid-size businesses are running old versions of their ERP software. <sup>1</sup>Why the lag? Organizations often decide that the pain required to re-implement incremental releases is too great—especially since each upgrade means the business risks losing critical customizations and integrations. Keeping ERP technology current is key to maximizing its potential, so it's essential to choose a system deployment option that's easy to update and will preserve custom features.

There's a third alternative: a cloud-based ERP solution like NetSuite. Because the system is cloud-based and managed entirely off site by the ERP provider, a cloud-based solution means you don't have to make expensive upfront investments in IT hardware and servers, nor worry about dedicating significant personnel resources to managing it. In addition, cloud-based implementations are usually much faster and easier to deploy than on-site deployments, and maintenance is much easier since the cloud-based ERP provider is responsible for keeping the technology up to date. Most importantly, with cloud technology, product enhancements are painless—customizations and integrations automatically update with system upgrades—so you can always be assured that your business is running with the most advanced capability.

#### **Get Executive Buy-In and Build Consensus around ERP Implementation**

Getting buy-in from company executives means more than just getting a signature to approve investment in an ERP solution (though that is certainly important); it means educating leadership about what ERP implementation means for the company. More than just software, ERP technology can transform the business, an idea that executives must support before moving forward with any deployment effort. Frequent communication from executives about ERP implementation plans and changing processes are vital to helping build consensus—and even excitement—across your company.

### **Set Realistic Expectations for ERP Implementation**

ERP software is powerful technology that can streamline processes, improve visibility, reduce costs, and completely change the way that your company does business—but it won't happen overnight. ERP solutions encompass many complex front- and back-office systems, from accounting and inventory management to ecommerce and CRM, which need to be integrated to create a seamless experience for end users.

This takes careful planning and time to execute. To accelerate the implementation process, make sure your project is scoped appropriately and consider working with an experienced, knowledgeable ERP expert. The average NetSuite customer is typically able to implement its ERP system within three months—much less than the on-premise ERP implementation industry average of a year and a half.

### **Focus on Staff Resources and Strong Project Management**

Before starting any ERP implementation, make sure that your company has the staff resources in place to see the project through to completion. This may seem like an obvious point, but many companies begin deployment without resourcing it adequately, resulting in overworked, unhappy employees and a less-than-optimal installation.

Identifying a dedicated project leader and a team for your ERP implementation will help ensure that the project goes smoothly. For ERP team members, consider reassigning or removing some of their normal job duties so they have enough time to concentrate on the task at hand. Identify a team leader with strong project management skills who can facilitate team communication, address any issues that may arise, and keep the implementation on schedule.

Keeping these best practices in mind will help you launch your deployment on the right track and keep it there throughout the entire process. Researching the best ERP implementation option for your business, building consensus around the effort, setting realistic expectations, and giving your staff the support they need—these steps take more time, but they result in a more effective ERP experience and a better-run business in the long term.

### **Identifying ERP benefits team formation**

There are particular challenges associated with forming a project team – certainly you need to be sure that all of your team have the required competencies to do the job – and also that the person will be able to work well in the different challenge of a project environment compared to the usual

daily operational environment. But you also need to ensure that anybody you choose will fit well within the team that you have in mind in order to have an effective team culture.

Best practice in the area of selection of ERP project team members incorporates the following steps:

- Determine the required competencies for the project role (ideally benchmarked against best-practice)
- Assess likely performance against job competencies via a combination of a trained HR Assessment and/or psychometric tests (particularly for roles where the candidate does not have the opportunity to demonstrate the competency in existing role)
- Complete as much screening as possible before calling the candidate for interview
- Complete competency-based behavioural interviewing (i.e. asking questions about how job applicants have fulfilled the competency in the past)
- Identify fit of individual against project team culture.

The benefits associated with this approach are:

- It provides a scientific and objective assessment method supplementing other sources of data about a candidate;
- Identifies potential development needs of individuals involved in moving from operational to project environment; and
- Identifies potential issues associated with building an effective project team.

Making good decisions on project team members can help significantly to build effective teams – and increase the likelihood that you will deliver projects on time and on budget together with optimizing business benefits.

### **Consultant Intervention:**

ERP consultant. ERP or Enterprise Resource Planning is a proven niche within which a consultant can distinguish him or herself from the myriad of consultants offering services to business. Experience and knowledge in resource planning, process and organizational design can set you apart from your competitors and provide you with the advantage you need to secure highly lucrative projects.

### **What Skills Does The ERP Consultant Need?**

As you can imagine from the broad based applications of ERP systems, the ERP consultant needs an equally broad base of understanding of all the elements that comprise the system. Although ERP consulting is a specialized field, there exists within it a need for knowledge of most aspects of a business enterprise as complex as a multi-product manufacturing plant. You need to possess multiple skills to embrace enterprise resource planning. If you have worked in manufacturing, you have many of these skills already.

The technical skills needed to effectively implement ERP into an organization's operations can be obtained from the top software providers themselves. Companies such as Oracle, SAP and Microsoft have collaborated with educational institutions to offer training in ERP software and its applications. Most successful ERP consultants will have spent time either working with a major ERP vendor or have worked in a customer organization where one of these applications has been adopted.

ERP consulting is a specialization in and of itself, and within this niche you can go broad or deep. Consider and approach the opportunity in one of two ways - either become a generalist for which you will need to possess at a high level, a solid understanding of all key elements of the system. This will enable you to assist your client to make effective use of ERP by providing comprehensive solution design and implementation services.

Alternatively, if you have a depth of experience in for example, accounting, human resources, logistics, sales and marketing, or other disciplines, you can easily choose to offer ERP consulting services in one of these specific areas, particularly powerful when working in collaboration with others who have depth in different, but complementary specializations.

### **What Are The Rewards For The ERP Consultant?**

The most obvious reward is being the specialist who provides effective solutions for a client and gets paid highly for it. Another thing to consider is that ERP consultants are highly sought after and their numbers are fewer than companies seeking these experts. Demand exceeds supply and consequently consulting rates are significantly higher than average for ERP consultants.

SAP consulting or PeopleSoft consulting projects are plentiful and companies are willing to pay a premium for these consultants, like you. This will also allows you to spend more time on doing the job rather than spending your time drumming up business.

Compensation levels for an ERP consultant can start in the six figures range and can rise to seven figures or more for larger consulting firms. Depending on the scope of the project and your skills, you can earn \$120K net per project as a rookie working solo and up to \$250K with a few notches on your belt. In some instances, you can charge a lot more. It all depends upon your circumstances and what you can negotiate. Remember, ERP consultants are in short supply. You can name your own price, within reason, with the right experience and training.

Typically organizations that have the potential to benefit from ERP applications will have global operations and hence an experienced ERP consultant could easily be required to travel extensively through the course of his or her career. Clearly, this could be an advantage or a disadvantage depending on your personal situation.

### **Process of ERP implementation**

Ten steps to a successful ERP implementation:

### **1. Need Assessment**

The first step in any ERP implementation is to identify your company's needs. Start by finding and documenting the critical business processes, inflection points and key performance indicators (KPI). This will help you pinpoint the right ERP solution, as well as the appropriate specialists needed as you go through this important transition. Remember this is about business processes that support the enterprise. While information technology considerations are important, IT shouldn't be the driver of the analysis.

### **2. Hire a Team of Specialists**

Many organizations lack the internal expertise and experience for ERP implementation. You need to consider hiring or contracting with an experienced professional to guide you through the implementation process. This will prevent a lot of headaches and wasted time, as well as giving you the time to focus on other tasks.

### **3. ERP System Evaluation and Selection**

Selection of the right ERP solution is one of the most critical steps in the process. The right program depends on your industry, your business needs and your system preferences. One consideration is whether you need an on-premise ERP system or a cloud computing ERP system. Many businesses have made the jump to the cloud. That may be the right solution for you, but understand it's not always the best option. It will depend on your specific business requirements and your organization's capacity to support the process. Your ERP consultant can also assist with this decision.

### **4. Prepare for Change**

Implementing a new ERP system can be a major change for a company, especially if you've never used one in the past. It's important to stay transparent with your employees about the change and engage them when possible. ERP transitions are as much about changing culture as changing technology.

### **5. Data Preparation**

Don't assume that all of your current data can be converted into the new system. Analyze your current data and decide which pieces need to be converted. After your data is all entered into the ERP database (most databases allow data entry via spreadsheet) you need to clean it up. Review the information database and weed out anything that you deem unnecessary, like old customers or those who are no longer in business. Data integrity is critical to a successful implementation.

### **6. ERP Implementation**

After completing the first five steps, it's time to launch the new system. Your ERP consultants have mapped out a specific plan of how to install, configure and optimize the system for your working environment. Plans are bound to change (at least slightly) during this process so always keep your major needs and end goals in mind.

## **7. Testing**

While the performance and integrity of ERP systems have come a long way since their introduction in the 90's do not assume everything will execute smooth. System and user acceptance testing is a key phase of the implementation process.

## **8. Training & Education**

After your system is configured, you need to train you employees on how to use the new program. Try finding a group that specializes in onsite training to make sure everyone is up to speed. You'll want to make sure your IT team has an extra session of training to know how to handle any tech problems that may arise in the future.

## **9. Go Live!**

Once your system has been configured, tested and your employees have been trained, it's time to go live. You can now safely activate your ERP system. It wouldn't hurt to do another round of testing after launching, just in case.

## **10. Ongoing Support**

Unfortunately, you can't just install your ERP system and never touch it again. Advanced ERP implementations require time and attention beyond the initial installation. This includes upgrades to your system and general maintenance.

## **ERP Project Management and monitoring**

Enterprise Resource Planning (ERP) systems have fundamentally changed the work of IT organizations. The sheer size and complexity of ERP implementations makes managing these projects difficult. There are really two basic sides to ERP management, people and technology. An ERP package touches the entire organization and can affect nearly every employee. And in some cases, an ERP project manager may not be able to know who will be affected, which can lead to some nasty surprises. One mismanaged ERP implementation left a southeastern electronics manufacturer unable to accept deliveries and nearly closed a plant.

It's also difficult to get a clear vision of the technological portion of the implementation because of the vast combination of hardware and software involved. The project manager must cope with

thousands of parts. Whether you are implementing one module or multiple modules, you must ensure consistency and full integration across the various subprojects, which is an enormous effort, even for an experienced system architect.

I did an informal survey of experienced ERP project managers from various corporate IT departments and Big 5 consulting companies, and assembled an unofficial list of the major problems faced by ERP project leads and managers. Almost everyone mentioned size first. Staff problems and organizational politics also ranked in the top ten.

### **Top 10 ERP Project Management Headaches**

<b>Rank</b>	<b>Issue</b>
1	Project Size
2	Staffing (Includes Turnover)
3	Risk Management
4	Unreasonable Deadlines
5	Funding
6	Organizational Politics
7	Scope Creep
8	Unexpected Gaps
9	Interfaces
10	Resistance To Change

According to the Eden Prairie, Minnesota Gartner Institute (a spin-off of the Gartner Group), the gap between the promise of an ERP system and the business value actually delivered once the project has been deployed is great. Enormous cost overruns, deadlines missed in some cases by years, and even abandoned implementations make clear that managing ERP projects is a complex task.

### **Successful Project Management**

Perhaps the single most decisive element of ERP success or failure is the knowledge, skills, abilities, and experience of the project manager. An ERP project manager must understand both the business and the technology. To avoid customization, businesses frequently change their business processes to fit the new software. An ERP project manager must understand the impact of the ERP implementation on the business, and work with business managers to ensure a smooth transition from the "as is" to the "to be" business operating environment.

To help educate project managers, The Gartner Institute created a project management certification program that includes an ERP specialty. The program and its courses focus on the critical issues that make ERP projects different from typical application development projects. This includes planning for the unusually large risk and complex cross-functional issues that accompany most ERP projects.

Using the findings from an on-going Gartner Institute research study, which involves brainstorming sessions with experienced project managers, the course provides the core project management techniques that account for the success or failure of ERP projects. Some core topics include gathering business requirements, blended workforce project organization, entry-, exit-, and acceptance criteria issues, change control and closure. The Gartner Institute also includes risk management, project planning, and scope management as major tasks for project managers.

A project manager must be flexible enough to roll with the changes as the project progresses, and not lose it when unpleasant surprises pop up as they always do during ERP implementations. They must be able to work with nearly every individual in the organization, from the most technical IT staffer or plant engineer, to the mailroom and building maintenance staff. They must also possess the ability to learn extremely fast, because they will need to understand business issues in areas of the organization with which they are unfamiliar.

An ERP project manager must also be highly disciplined. They must be able to clearly envision the project end game, and then hold the entire organization to the road that leads to that successful end. This means bringing other team members back on track when deviations occur or distractions arise. They must also be willing to make tough decisions, and understand that those decisions will upset some and please others. A thick skin is certainly an asset.

## **Successful Project Manager Characteristics**

### **Deciding On Project Scope**

Scope management procedures must also be created and enforced to prevent "never ending project" syndrome. Constant scope changes, whether increases or decreases, cause confusion among project team members. The primary focus of scope management is on defining and controlling what is and is not included in the project. The project manager must work with other departments to clearly define the project scope. If the project scope is not defined properly, required work is missed, jeopardizing the project success. On the flip side, work outside the scope of the project may be done, hurting the budget.

The scope of an ERP project has several components. The ERP project team must decide which business processes will be included in the implementation. This decision, in turn, effects which ERP functionality will be implemented. If an organization has more than one business unit or line, the team must decide which divisions to include in each phase of the rollout. The IT organization must determine which technologies will be replaced and upgraded, and which will exchange data through interfaces, until the rollout is complete.

To prevent scope problems, make sure a project charter or mission statement exists. Be sure to really nail down the project requirements, and have them documented and signed by the users and senior management. Clearly define change control procedures and hold everyone to them. Tight change control procedures may end up causing tension between the project team and those who do not get changes they want. Ultimately, though, the project can't be successful if the project team is trying to hit a constantly moving target.



**Discovering Gaps** No software, no matter how big and sophisticated fits every organization perfectly. And although ERP vendors will tell you that their software will solve all your problems, there will still be gaps. These gaps may be small, or extremely large and problematic. ERP project managers frequently run into political minefields when doing gap analyses. The main problem is that each time a gap is identified that costs additional dollars to fix, someone, somewhere in the organization is going to ask, "Why did we spend all that money if the software doesn't do what we need?" This can cause the executive sponsors to look bad, and push back at the project manager to "make the gaps go away." This, in turn, leads to user frustration and dissatisfaction with the rollout.

To solve this problem, be extremely thorough in the package selection process, and make sure everyone at every level knows what the software can and can't do. Start creating a gap document early, because the gap analysis document is very useful for stakeholder management. It provides direction on project management, and provides a clear knowledge of what will need to be done. The review of gaps and design of the adapted implementation program should detail the change scope, cost, and benefit, as well as the adapted project plan.

**The Right Staff** It's absolutely critical to get the right people involved early. Leaving out the wrong person has both project-related and political implications. A project manager must look at the scope of the project beyond the ERP software itself, and examine the interfaces to be built. Each business area with which the ERP software will communicate must be involved. There's often a tendency to develop "tunnel vision," where the ERP implementation team only works with those users and organizational staff immediately involved with the rollout. Invariably, the project team discovers that a critical piece of knowledge is missing because they didn't get the right person involved early.

Of course, one of the major issues with any IT project is the staffing issue. Good technology staff, particularly those with deep ERP experience are extremely hard to find. Since it's difficult to transition ERP team members on and off projects, it's a good idea to identify staff members that are critical but are high turnover risks early in the project. A project manager can develop recognition programs that help retention. ERP projects can be long and frustrating so it's also helpful to set up events for employees to communicate and vent about the working environment. Another trend is to implement flextime to allow employees greater flexibility in setting work hours within limits. Some studies show that flextime results in significant productivity increase and employee satisfaction.

**Preventing Brain Drain** Another problem faced by ERP project managers is the need to integrate consultants with corporate staff and ensure a smooth knowledge transfer when the consultants leave. One large midwestern food producer solved the problem by pairing up consultants with corporate employees in both technology and business areas. The consultants and corporate staff worked side-by-side throughout the implementation. This helped ensure a nearly constant flow information from consultants to corporate staff, and prevented the "knowledge drain" that usually occurs when consultants roll off projects.

**Project Scheduling** Scheduling and organizing ERP projects is like herding cats. You have lots of people, lots of subprojects, and many potentially conflicting political and organizational issues. It's extremely important to consider all of the issues and develop a clear, concise, and thorough

project plan before starting the implementation. An expert project manager creates a plan that addresses the major issues, and is flexible enough to change as the project hits the inevitable bumps in the road.

One of the major problems with scheduling large projects is accounting for time issues with people assigned to the project. These must be identified in the schedule. The proper dependencies and human resources should be requested prior to creating and dating activities in the schedule. It's also important to account for vacations, sick days, and other leave that frequently takes people away from the project unexpectedly. A critical path analysis should also be performed on the project schedule, to determine any potential "show stoppers". A critical path analysis determines which resources absolutely must be present at certain times in the project for it to succeed. For example, if the database for a new ERP system will be built on Tuesday, then the database administrator (DBA) must be there on Tuesday to do the work. In this case, the DBA is the critical path person for the database build task.

### **Monitoring Progress**

"Riding herd on the cats" means using compassionate micromanagement. While it's generally a bad idea for project managers to try and do everything themselves, they must create very specific work assignments for software developers. Project managers should schedule technical and management reviews at least once a week and track progress carefully against the original plan. It's also important to do a project review at the end of each phase and the project as a whole.

Success criteria for ERP projects are frequently inadequate or even non-existent. The success criteria should be clearly defined in the procedures, methods, and techniques that are part of a high quality project control system. Standards and techniques for measuring the quality of performance expected from the new system should be defined early, and redefined as needed over the life of the project. If success measures are obsolete at the end of the project, then the project can't be evaluated as a success, and may be seen as a waste of money. And who wants to waste \$50 million?

### **Managing Chaos**

Managing an ERP project is unlike any other effort because of the huge number of variables, people and risks involved. The complete replacement of an organization's information systems has a tremendous impact on the people in the organization, the company, its suppliers and even its customers. An ERP project manager must guide the project with a firm, practiced hand that both encourages project team members to find new ways to innovate, and at the same time, ensures that everyone and everything is moving in the right direction. An ERP project manager must possess an intimate understanding of the business and how it will change when the ERP system is rolled out, and must also have a solid technical foundation.

### **Measuring benefits of ERP**

A lot of tools are available to help with the "before" part. These include total cost of ownership (TCO) and return on investment (ROI) calculators from various sources, as well as less-quantitative analysis methods.

In fact, this is often a neglected part of the evaluation process. It shouldn't be, because it's important in helping determine whether the job is complete or there is still more to do to wring the expected efficiencies out of the implementation. The problem is that the "after" part is different enough from the "before" part that it needs its own set of evaluation methods. And such methods are in short supply. To help remedy this shortfall, the following list provides a variety of conventional and unconventional ways to measure the success of your ERP implementation.

### **1) Visible results**

The most immediate indicator of success is having gotten the new system up and running without shutting the company down or severely impairing operations. This is also the most visible factor: Anyone can see whether the system is working or not. Similarly visible are measures such as whether the project came in on schedule and within budget. You may not achieve them totally. For example, there may be cutover glitches, and cost and time overruns. In fact, most ERP implementations have such overruns. But you need to come close, or do a good job of explaining why you didn't.

### **2) Measurable impact**

This type of results gets the most attention before you start. And for good reason: it involves hard numbers. Given that business is ultimately about numbers, this category is a big help in reaching the decision to implement ERP or not. It is also a major factor in determining the success, or lack of success, of the implementation afterward. All it takes is seeing whether quantifiable results turned out as projected. This, incidentally, is one of the areas where the "before" and "after" evaluation methods are essentially the same.

During the planning process, you likely projected two kinds of measurable results you expected ERP to produce: cost savings and revenue increases. You may have used any number of tools, such as the above-mentioned TCO and ROI calculators, to develop your projections. After implementation, you can measure both types of results, using the same tools and methods you employed for your projections. After correcting for external factors such as changes in market conditions, you will have a good sense of how ERP has improved your bottom line.

### **3) Tangible benefits**

Measurable benefits are always tangible. But not all tangible benefits are readily measurable. For example, ERP systems can give employees more and better information for doing their jobs. That will help them make fewer errors and communicate better. The reduction in errors is both tangible and measurable. But while the benefits of improved communication can be quite obvious and real to employees and managers alike, they may also be harder to measure. In any case, you should find a way to include all tangible benefits, measurable or not, in your post-implementation evaluation to determine whether your ERP project was a success or not.

### **4) Generalized improvements**

Some benefits, which you may or may not have been able to project as described in #2 above, might be measurable but not directly attributable. For example, ERP implementation may significantly improve customer relations. This can produce such results as:

- Higher sales
- More repeat sales
- Higher sales conversion rates
- Higher customer retention rates
- A better public image

In the first four cases, it's easy to quantify improvements via before-and-after internal numbers. In the last, before-and-after external surveys will do the trick.

What may be harder is showing direct cause-and-effect relationship between any specific aspect of ERP implementation and the improvements. For example, the improved customer relations might be the result of fewer employee mistakes, quicker response times due to better access to relevant information, or other factors. Thus even when some benefits of ERP implementation are measurable, they might not be easy to attribute. Nonetheless, when broad-based measures of business performance improve following ERP implementation, it's realistic to categorize this generalized improvement as a successful result of the implementation.

## **5) Internal indicators**

Some indicators of ERP success are both highly visible within the company and nearly impossible to quantify. One is that the new ERP system has become a routine part of daily operations. Employees find it better, and/or less frustrating, to use than the old system. Operations as a whole feel less fragmented. Managers are happier. And there is a general sense that implementation delivered on expectations. This too should be included as a measure of success.

## **6) Strategic advantage**

ERP can also bring broad strategic benefits. In particular, it can give management better understanding and control of the business as a whole. This can help them plan major moves and initiatives, including those involving new products, new markets and acquisitions, based on data rather than instinct. It also lets them better position the business against competitors, providing increased flexibility and efficiency in responding to rapidly changing conditions. These factors too may be hard to quantify. But ultimately they may represent the most important benefits of an ERP.