



Seven Pieces of the ERP Training Puzzle

Picture this exchange between a CIO and an IT Training Manager...

"Sandy, I wanted to let you know that we've picked an ERP system and gotten the go-ahead for the project. You'll need to train about 500 people, just like when we implemented the new e-mail system."

"But Bob... I need some idea of where to start. Can we set up a meeting to discuss approaches? I hear ERP training is a real challenge."

"I'm sure you'll figure it out, Sandy."

Sandy's instincts are right on. ERP training is a challenge, and it's nothing like implementing a new e-mail system with a one-size-fits-all training approach. Instead, ERP training looks like a giant puzzle. Hundreds of discrete business process pieces, each related to a specific group of users, all of which need to seamlessly fit together. For example, processes within Finance vary among themselves, and are certainly different than those in Sales. But sometimes a group in Finance must work jointly with a group in Sales. And what about Distribution, Manufacturing, and HR? The list can seem endless, and the relationships are obviously intricate. Lose a couple of puzzle pieces and you miss the picture.

Where should Sandy begin? We suggest that she start thinking about her own process and project...the training initiative. In that other great puzzle, the ERP project, she's responsible for a whole corner of the picture. And she holds in her hands a handful of process pieces she needs to snap together.

Despite what you may have heard about ERP training projects, they are survivable. They're also long, large, multi-disciplinary, and require a learning curve. Some would say that they are also career-changing, if not life-altering, and will make your hair go gray.

We wouldn't want that to happen to Sandy. So here are what we consider the seven major puzzle pieces with which Sandy needs to work.

1. **Planning** - Identifying the elements needed to structure the training direction.
2. **Budgeting** - Determining the investment.
3. **Staffing** - Determining resources (internal and external) and needed prerequisite skills.
4. **Partnering with the Business** - Developing a shared responsibility and success plan.

5. **Organizational Issues** – Red flags to look for that could impact the plan and coping strategies.
6. **Curriculum Development** - Discussing best practices for ERP projects.
7. **Implementation** - Rolling out the training. Pros and cons to each approach.

Let's begin with planning.

Planning your ERP Training Project

Many companies find that planning for ERP training is a multi-phased process. The extent and detail of the project plan grow over several months, as you uncover new facts and come to fully understand the scope of the initiative.

There's no mystery to planning. All you really need to know is when to begin, the level of effort you need to apply, and the plan deliverables you need to develop. As the ERP project evolves, you can adjust and add detail to your plan and begin to schedule the work to be done.

When to Begin

Training planning normally begins during "Blueprinting", the ERP project phase in which the "to-be", or future business processes, are being designed. This is an excellent time to begin assessing organizational readiness and the current levels of end-user skill and knowledge in relation to those that will be needed in the new environment.

Level of Effort

The effort needed to perform the training assessment varies widely, depending upon project scope and how many people are affected. A knowledgeable and well connected inside resource can probably survey the environment within 40 to 80 hours. However, a full-scale assessment may take anywhere from 160-480 hours.

The ideal arrangement for a full-scale assessment involves an in-house resource paired with an experienced ERP training consultant. The in-house resource quickly navigates the organization while the consultant constructs and fills in the assessment structure.

The organization will need to ante up time for the assessment. Interviews of approximately one hour must be conducted with each end-user group and its manager, the Executive team, selected ERP project team members, and support departments such as Human Resources, Information Technology, and Training.

Plan Deliverables

An ERP training consultant can help you construct questions and strategies for conducting your assessment. Below is a list of plan deliverables you should focus on developing.

- **Prerequisite end user skills education plan.** Outlines the business skills and knowledge end users must obtain before ERP training begins, along with a timeline for acquisition.
- **Training staffing plan.** Defines the talent mix and resources required for the ERP training project. Identifies resources committed and needed for analysis, design, development, delivery, and

administration of training. Points out gaps between requirements and available talent, and identifies strategies for obtaining or developing resources.

- **Training delivery plan.** Answers basic questions about how the curriculum is going to be developed and delivered. Contains an overview of tools needed, logistical challenges, technical infrastructure weaknesses, training system environment, and delivery mechanisms. Also provides an initial timeline for rollout of education and training.
- **Curriculum matrix.** This is easily the most useful reference for training developers, and it will grow into a huge, complex document over the life of the project. Simply put, the matrix lists tasks to be trained and information to be presented for each job role in the new environment. In its final form, it will not only guide development, but also provide a completion checklist. Another useful document, using the curriculum matrix as its basis, will map end users in each department to their appropriate job roles and training, giving a departmental and

end user snapshot of the training needed.

- **Budget.** Estimates the cost of internal and external resources for development and delivery. Also addresses the costs to the organization for end-user training. May also include strategies for recovering the costs of training.

Together, these items make up your training plan, but each piece will have different audiences. For example, project management will want to understand the entire plan, and business departments will typically be concerned only with those pieces that apply directly to their end-users. We suggest that you use a modular arrangement for the deliverables, so that you can mix and match the pieces requested by each audience.

Also remember that these are living documents. Not all of the information you'll need will be both firm and available during your initial assessment. So as the project progresses past the Blueprint stage, expect changes and additions. But don't fret. With a solid base, a little patience, and a good attitude, you'll sail right through.

Building a Budget for ERP Training

No doubt about it: ERP projects are expensive, and so is the training needed to support your rollout. In fact, research about ERP training is eye-opening if not startling.

- *IDC Learning Services Research shows that organizations, on average, spent 15% of their total ERP budgets on training, while indicating that a 17-20% investment yields better results.*
- *Research from the Gartner Group shows similar averages and an interesting fact... Organizations that spent less than 13% of their total ERP cost on training were three times more likely to see their ERP projects run over time and over budget when compared to organizations that spent 17% or more.*



What should you do? March right up to management and demand your 17% of the pie for training? We don't think so. Instead, budget from the bottom up, and use the 17% figure as a sanity check when you arrive at a total.

Spending Categories

Use our cheat sheet to make sure you're accounting for all spending categories that will apply to your project. Typical categories for ERP training include:

- **Hardware**
How much extra hardware will you need to support the training system?
- **Software**
Will you need additional ERP system licenses for training IDs? Will you need one or more training clients, or will you be simulating the system using course authoring software? Will you need a learning management system to track and administer courseware? What about project management software?
- **Tools**
Are your users and team members spread out geographically? Will you need WebEx or conferencing services to facilitate distance learning or training development meetings?
- **Upgrades**
Does your current learning management system or course authoring software need upgrading to support the new project?
- **Administration**
How many training coordinators will you need to support courseware management and training sessions? What about the cost of materials production?

Internal Staff

Will you need to supplement your staff to cover gaps when your employees are away conducting or attending training?

- **Consultants / Training Developers**
How many external consultants will you need? For how many months? And at what hourly rate?
- **Travel**
What is the estimated cost of moving, housing, and feeding the people who will be on the road? These include trainers and employees who need to travel to training sessions, and training developers who may need to work at various sites.
- **Training Support**
Will you need web developers to publish training on your intranet? How about foreign language translation and sign language interpreters required for special learners? Finally, don't forget about classroom set-up, including whiteboards and workstation installation.
- **Vendor Classes**
Will you need to budget tuition for vendor-supplied training?
- **Team Fun**
ERP projects are stressful and you'll need to maintain morale. Treat your team members to an occasional event, such as an ice cream social or golf outing.

- **Facilities**
Can you accommodate all training sessions in-house, or will you need to budget for outside facilities?
- **On-going Support**
This is a broad category, not usually required in your initial budget but worth considering from the start. It includes such “looking forward” items as new hires and services that may be required when ERP system upgrades occur and training needs to be updated.

Coordinate Your Budgeting Exercise

Defining budget categories helps you manage the task. You can now delegate the footwork to staff members, making each responsible for researching and deriving totals for several categories.

Obtaining extensive and detailed information is crucial. Your budgeting team will need to speak with end-user management, in-house technical staff, and ERP project management, to secure commitments and gain a clear idea of which costs the training team will be responsible. Additionally, discussions with vendors and other companies that have gone through

similar implementations will help you determine dollar amounts for line items.

Meet frequently with your budgeting team to flesh out and resolve emerging issues and revise your projections.

Roll-up and Review

After all categories have been researched and costed, roll up the budget and consider the total.

- What percentage of the estimated total ERP project cost does your budget represent? Is it significantly different from the guidelines we mentioned at the beginning of this article?
- If it is too low, review your line items and make sure you’ve accounted for all costs. Also, consider adding a risk premium to cover “unknown” costs.
- If it is too high, ask yourself if you are being too cautious. Remember that budgeting always contains an element of risk. Also, is it a number you can sell to your project management?

In the end, however, ask yourself the most important question...“Is this a number I can live with?” If you’ve done your homework and obtained solid numbers and commitments, the answer should be “Yes.”

Staffing the ERP Training Team

Staffing an ERP Training Team can be intimidating. This may well be the biggest, most complex, training project you ever attempt. However, the standards and thoroughness you normally use when staffing projects still apply.

You pore over the project plan to get an idea of timing. You look at scoping documents to learn about content complexity. You ask questions to understand your audience and figure out which training delivery systems you might be able to use. Then, you identify skills needed and roles to be staffed.



Roles Needed Throughout the ERP Project Lifecycle

On this chart you'll see some familiar training team roles, set within the context of a typical ERP project lifecycle. Below, we'll step through each role and discuss activities performed and skill sets needed.

Project Preparation	Business Design	Development	Implementation
Training Team Lead	Training Team Lead	<ul style="list-style-type: none"> ▪ Training Team Lead ▪ Instructional Designer ▪ Online Learning Developer ▪ Technical Writer 	<ul style="list-style-type: none"> ▪ Training Team Lead ▪ Trainer ▪ Training Coordinator

Training Team Lead

The team lead is the first to arrive and the last to leave the project.

During the first two project phases, the team lead performs information-gathering and planning tasks such as:

- Conducting an audience assessment
- Developing a training strategy and plan
- Contributing project plan line items
- Selecting and securing other training team members
- Developing a project orientation in preparation for other training team members joining the project
- Contributing to the Change Management strategy and plan

A good candidate will have a broad knowledge of the business and great analysis and negotiation skills.

During Development, the team lead becomes a conduit between project management and the training group. Some of the crucial activities performed during this phase are:

- Keeping the team moving towards milestones
- Training the team on development tools or systems used for training

- Communicating and resolving issues within the team and on the project
- Communicating status
- Preparing and delivering end user training presentations to the business

The lead must be highly organized and possess superior communications and people skills. Ideally, the person will also have led multi-functional teams and had some ERP experience. If experience cannot be found in-house, a consultant is often paired with the team lead, to provide mentoring and support.

Instructional Designer

Instructional designers build the curriculum and design the courseware. They join the project during the Development phase, and their participation continues until the training materials are complete.

Their contributions include:

- Curriculum development
- Course design
- Course development for the classroom or the web
- Train the Trainer Workshop design and development

In this role, the ability to understand and analyze complex business processes is important. You'll need to look for individuals who are team players and have experience in instructional design, adult learning theory, interviewing, and communications.

The number of instructional designers you'll need is based on three factors:

- Timeline—The shorter the timeline, the more you'll need.
- Number of business processes and their complexity—How many processes can one instructional designer reasonably handle?
- Number of subject matter experts—How many people will one designer need to work with to obtain information?

Online Learning Developer

If you plan on delivering training over the web, you'll need an online learning developer. The individual initially consults with your instructional designers to develop courseware standards and give advice about how learning content translates to an online environment. The person then builds on-line modules from course storyboards.

Your online learning developers should be skilled in:

- Training development tools for the web
- Producing online learning for business process and software tools
- Instructional design concepts
- Visual communication of ideas

The number of online learning developers you need depends on many factors unique to your project.

Trainer

There are two ways of finding trainers for classroom delivery.

The first way is to grow your own. Find individuals in each business area with good communication and people skills. Over the life of the project, show them how the ERP system will work for them. As end user training nears, teach these subject matter experts how to use the course materials you've developed to train the end-users.

The second way is to hire professional trainers who already know the system and processes to be taught. Professional trainers can be added to the project about 1-2 months prior to the start of end user training.

With either approach the duties of the trainer are the same:

- Become familiar with course material
- Assist instructional designers in the development of the participant exercises by advising on likely business scenarios.
- Load practice data in a training system.
- Deliver end user training
- Participate in the assessment of the end user training

Required skills include excellent communication and facilitation skills, ERP subject matter expertise, and limitless patience and enthusiasm in the classroom.

The number of trainers you'll need will depend upon the number of business processes and end users to be trained.

Training Coordinator

The training coordinator takes on the enormous tasks of scheduling learners into appropriate courses, tracking completion, scheduling make-up courses, and adjusting training schedules. Add this full time person to the project about 2 months prior to the start of end user training.

Essential skills include attention to detail, organization, working knowledge of database software, and above average written and verbal communication. Now that you have a clearer understanding of the skills required for each training team role, staffing your ERP training team will be easy.

Partnering with the Business

Experts agree that you get the most from your ERP software when users become accepting, comfortable, and proficient performing the new business processes the software supports. In other words, much of the success of a multi-million dollar ERP implementation depends on the people using the system for day-to-day work.

So a key question for the project team becomes, "Is there a sure-fire training method that guarantees proficient users?" Probably not. But there is a concept that will help turn the odds in your favor.

It's the Super User concept. And it's been proven to increase staff buy-in and proficiency, plus the sustainability of ERP learning. Here is a greatly simplified look at how it works.

As new business processes are developed, the Change Management team, in partnership with Project Management, identifies all business departments in which Super Users will be needed. A series of meetings are held with department management, to identify individuals with the skills needed and to outline time commitments and responsibilities.

Individuals chosen to become Super Users possess above average skill in the following areas:

- Organizational skills—Super Users will be managing the time of others as well as their own time
- Communication skills—To convey information in a concise and understandable manner
- Problem-solving skills—To help and support others perform complex work tasks
- Computer literacy—A knack for quickly picking up new system processes
- Business knowledge—Thorough understanding of the company's business to help learners relate new processes to old

Typically, Super Users will spend 50 – 100% of their time until implementation on ERP work, which could take up to six months.

Once recruited, Super Users are immersed in the business processes for which they are responsible. Working with the process team, they get hands-

on ERP training, learn about process design, and participate in testing. With the training team, they contribute to course design sessions and are mentored in classroom facilitation techniques. By go-live, they have the knowledge and skills needed to train the staff back in their own departments. Training takes on tremendous credibility when delivered by “one of their own”. The Super User becomes the department “go to” person for any ERP assistance.

Don't be fooled. Employing Super Users is a complicated task. Large-scale ERP implementations may require 50 or more Super Users. And you'll still need a small cadre of instructional designers to support them. However, the benefits outweigh the difficulties, if only because you are developing expertise that will remain in-house, instead of hiring an army of consultants who will leave you to go it alone.

ERP Impacts the Corporate Culture /Organizational Issues

Most managers who have been through an ERP implementation will tell you that its biggest impact is on corporate culture. Employees' skills, habits and values must change as the company shifts focus and goals. The impact of these changes is nearly always underestimated.

For example, in some organizations an employee may be valued for his or her ability to navigate informal channels to obtain information. In this model, flexibility is prized over process. But ERP implementations are by nature process-driven, and they bring a new value set that emphasizes ERP usage skills and data quality over ad-hoc methods and homegrown systems.

Additionally, ERP systems require an employee's “world-view” to expand, as the system makes data more generally available and shows off the relationships between tasks within complex business processes. Consistency and accuracy become more noticeable, and productivity measurement becomes the norm.

Some employees may not make this shift willingly. Initially, they may feel that the more creative aspects of their jobs are going away, as everyone becomes more reliant on data from a single source. This is a false assumption. Over the long term, ERP systems not only make employees more productive, but also increase opportunities for individuals to make larger contributions, noticing trends and anomalies in larger data sets and contributing to process improvements.

So how do you handle cultural changes stemming from an ERP implementation? The steps in the process are not new, but the message requires some thought.

- Start early. Though the timeframe in which employees need to change work habits may be short, you can reduce the emotional impact of the change by starting early with targeted information campaigns and good training.
- Align the leadership team. Make sure they not only understand the nature and benefits of the ERP system, but also the issues surrounding employee acceptance.
- Set reasonable expectations. Employees should understand that, in the short term, they are only expected to achieve a basic level of competency. Beyond this transition period, there will be many opportunities to excel and provide unique contributions.
- Communicate specifically and continually. Each level and area of the organization has its own needs and issues. Develop a plan that addresses the unique situation of specific groups but uses consistent and ongoing communication methods to keep staff updated on progress and involvement opportunities during the implementation period.
- Identify new work teams and roles early. ERP systems bring large adjustments to work roles and responsibilities. Identify and communicate these changes early, so employees affected fully understand and mentally prepare for the new environment.
- Develop competency. Competency will provide comfort for most employees facing the new environment. Make sure everyone has a solid overall understanding of how work flows through the new system. Then allow weeks of hands-on practice performing new job tasks in the system after formal training.

When properly prepared, most employees will support changes to the corporate culture, embrace the new ERP system, and adopt new values that ensure success.

Simulation Tools for Fast & Furious ERP Training Material Development

One common truth that seems to hold from one ERP project to the next is that training material development gets squeezed into tight timeframes towards the end of the implementation project. This large task might involve the creation of reference manuals, job aids, training manuals, and training exercises, tailored to many diverse job roles.

Simulation tools may be the answer to producing quality training materials in a short timeframe. For those not familiar with simulation tools, in general, the functionality involves recording screen processes with the ability to insert variables for exception processing. The output can include training manuals, integrated on-line help, training exercises, process flows, reference manuals, any or all of the above. The theory is that with one input several outputs can be produced, thus saving the time it would take to produce each of the outputs manually.

Tools are not for every project and are not a silver bullet as many come with large initial price tags, administrative and computing overhead and ongoing maintenance issues. Tool use is well suited to projects that require many training outputs, multiple location rollouts, documentation standardization, and have several people developing materials. Tools are for organizations structured to absorb the added administrative and maintenance duties.

For those wanting to go down the path of simulation tool evaluation, the following is a short list of the top tool vendors on the market today.

Tool	Vendor	Website
Captivate	Macromedia	www.macromedia.com
Expert Author	KnowledgeQuest	www.knowledgequest.com
FireFly	KnowledgePlanet	www.knowledgeplanet.com
InfoPak Simulator	RWD	www.rwd.com
KS Helper	Knowledge Solutions	www.kshelper.com
OnDemand Personal Navigator	Global Knowledge	www.ondemandgk.com
STT Trainer	STT	www.stt-global.com

To jumpstart your tool evaluation visit http://www.brandon-hall.com/community/2005_sim_shootout/2005_simulation.shtml. Brandon-Hall Research invited the best -of- the- best simulation tool vendors to a shoot out at the Training 2005 Conference. The website link contains the results of that event.

Talk to others that have used the various tools. Hire knowledgeable consultants that have no alliances to any particular tool. Vendors can put on splashy demos that make it difficult to properly evaluate if you haven't done the up front research.

ERP Training Implementation Challenges

Last, we address what is arguably the most common ERP training implementation challenge. Giving learners ample opportunity to learn and practice new skills in a real world environment prior to go-live.



Rarely do companies in the throes of an ERP implementation get this right. The challenge is lack of time, money, planning, and resources. Why? It is not easy and quick. People need to relearn how to do jobs that may have been performed the same way for numerous years. That is not accomplished in one or two training events. We know that adults learn best when



learning is structured in the context of what they know, is related to their job in a problem solving context, they learn by doing, and repeatedly practicing new skills over a period of time is critical for retention. Clearly our skills training must be more than a 'push the button' one-time event.

The amount of time needed to learn and practice skills will depend primarily on the criticality of the job role. You will want to give those involved in mission critical activities the most intensive training and practice over a longer period of time than those involved in non-mission critical roles. The following chart offers suggestions on what an optimum training rollout might look like.

Learner Category	Training Process Components	Training Weeks
Critical Business Roles Examples: Order Entry Distribution Accounts Receivable	<ul style="list-style-type: none"> • Process tutorial • Navigation & terminology tutorial • Hands-on classroom process & navigation review • Hands-on job-based classroom with practice labs • Problem solving labs (job aids) 	6-8 weeks
Support Business Roles Examples: HR Customer Returns Marketing	<ul style="list-style-type: none"> • Classroom navigation, terminology & process overview • Hands-on job-based classroom • Practice labs (job aids) 	4-5 weeks
Reporting	<ul style="list-style-type: none"> • Job aid relating old terms to new terms • Hands-on report generation classroom or e-learning 	2 weeks

The challenge becomes less when early in the project these timelines are built into the project plan and communicated widely to the business. Activities can begin early in the project to support the training implementation. Work can begin on process, navigation, and terminology tutorials and/or job aids (this information is widely known by the time development begins). Meeting with the business managers to put together training timelines for each individual is extremely beneficial. This gives the business managers months to plan how day-to-day job tasks will be accomplished during the time key individuals are learning new skills.

With a little planning up front the training roll out will come together without the stress of wondering if individuals will have the time to learn.

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