Checklist for a Successful ERP System

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The roots of Enterprise Resource Planning (ERP) started in the late 1960s and early 1970s with the use of computers and computer systems in manufacturing companies. Those early applications of the computer as a tool to manipulate and store data began in the finance area. Finance used the computer to reduce manual record keeping and filing systems for payables, receivables, general ledger and payroll. The logical progression of the computer as a tool to help run the business was to apply computer capabilities on the operations side of the business, specifically to help plan, schedule and order material. This technique was called Material Requirements Planning (MRP). By the end of the 1970s, with computers now affordable for almost all businesses, thousands of companies began MRP implementations to better manage their businesses. Companies rushed to implement this new tool to help them better manage inventories, improve material shortage conditions on the factory floor, reduce purchasing costs and improve on-time customer delivery.

As more companies began to implement and use MRP to plan, schedule and order material a select few companies began to realize that to yield the full benefit of MRP, it must be viewed and managed as a company operating system. This second generation of MRP, known as Manufacturing Resource Planning (MRPII) provided an expanded range of functional tools. This improved capability meant that all functions in the business, including senior management, sales, engineering, finance and quality, now began to utilize an integrated set of tools to help manage their operations.

The latest version of business system software is Enterprise Resource Planning. The ERP model (Figure 1) is a method to effectively manage the total resources in a business enterprise. Today, with the capability of current ERP systems, business system integration has been extended to the customer and the supply chain.

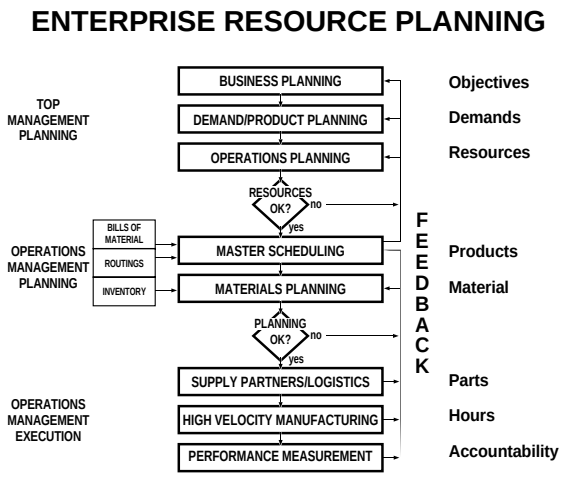

Figure 1

Enterprise Resource Planning Checklist

The most challenging component of ERP implementation is getting started. Knowing the philosophy of ERP and understanding the concepts of predictable performance and accurate planning is quite different from understanding how to put the pieces into place to introduce the kinds of change that affect not only the processes and procedures but also the culture. Few operations can truthfully report a smooth startup with no snags whatsoever, as ERP implementation is a major change for most organizations. However, in the companies successful in their implementation there are specific actions that have been documented as fundamental to their success.

ERP Checklist

1. Company Wide Education
2. Management Leadership
3. Value Proposition
4. Performance Measurement
5. Organizational Accountability
6. Handshake Management
7. Project Organization
8. Project Plan
9. Business Processes
10. Technology Evaluation

Figure 2

1. **Education**
   The education process for ERP is broken into three steps or phases. The first phase is top management education.

   The most successful approach to top management education is for the top management to attend a course (typically 2 days) on the subject of ERP. This phase of the education should cover the concepts of ERP, how these concepts apply to your company, the changes required to make it happen in your company, senior management's role in the implementation, performance measurements and the steps to success. The most successful approach in the top management education is to go through the education as a team. By doing the education as a team a consensus and common vision as to how to move forward as a company (action plan) can be formulated.

Education Pyramid

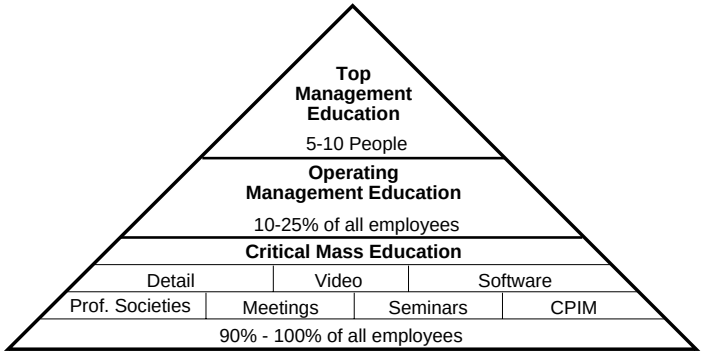

Figure 3

The second phase of the education is for operating management. The operating management education typically is for 10-25% of the organization and should be started no later than 30 days after the top management education. The education should encompass department managers, first line supervision, project team members and key staff/support. The operating education is normally a two-day course taught by outside instructors off-site from the company with cross- functional representation from each area of the business.

The third phase in the education process is directed at the critical mass of the company. In companies successful in their new business system implementation 100% of the organization receives some form of education and training. After all, what is ERP about? It is about reinvesting in the people, raising the technical competence throughout the organization, not just implementing software.

2. Leadership

Leadership is one of the most critical factors in the successful implementation of ERP. In our surveys over the last nineteen years of working with and interviewing high performance companies, each of those companies had a senior manager champion the new business system implementation. Preferably the senior management champion should be the president or person in charge of the business. Why? The ERP implementation cuts across the entire organization and there is only one person with the authority to organize the resources

3. Value Proposition

Part of the effort is to document the reason for the focus or high priority put on the implementation effort. One of the first tasks or assignments of the project team must be to cost justify the implementation. By the mere assignment from top management to the project team, top management has acknowledged that it believes or suspects that there is a justification for the expenditure of resources and money, but the team and functional managers must also acknowledge the expenditures and personally sign up for the resulting benefits. Justifications typically and realistically include:

Benefits:

A. Attained data accuracy
B. Reduced inventory
C. Improved delivery performance
D. Improved flexibility through setup reduction and cycle time reduction
E. Improved product quality
F. Improved morale/quality of life for employees
G. Reduced purchasing and traffic costs
H. Increased sales from increased competitiveness
I. Improved productivity

Costs:

A. Education
B. Outside consulting services
C. Facilitator training and resource
D. Full time project manager
E. Some travel for company visits
F. Time spent on the project by team members
G. Training aids, books, video materials, etc.
H. Software and hardware

The company's justification document should also calculate the Return On Investment (ROI) for the project and the cost for every month the project is not completed (cost of a one month delay). Successful implementations are achieving at least a 250% ROI in the project.

4. Performance Measurement

The true measure of success in an ERP implementation is not whether new systems have been implemented, but what happens to the operating performance in the business. The focus then is on operating performance, not just financial performance.

Performance measurements should focus on rates of improvement to drive the habit of ongoing or continuous improvement. Management should also look at performance measurement as a way to highlight or provide focus to the problem performance areas. In those areas below 95% performance an action plan to improve the performance is required.

PERFORMANCE REPORT CARD

COMPANY _____ BY _____ DATE _____

	FUNCTIONAL AREA	RESPONSIBILITY	PERFORMANCE OBJECTIVE	PERFORMANCE MEASUREMENT
TOP MANAGEMENT PLANNING	BUSINESS PLANNING	GENERAL MANAGER	RETURN ON INVESTMENT	
	DEMAND/PRODUCT PLANNING	SALES	SALES PERFORMANCE	
	OPERATIONS PLANNING	MANUFACTURING	PRODUCTION PERFORMANCE	
OPERATIONS MANAGEMENT PLANNING	MASTER SCHEDULE	MANUFACTURING	MPS PERFORMANCE	
	MATERIALS PLAN	MATERIALS	SCHEDULE RELIABILITY	
DATA BASE	BILLS OF MATERIAL	ENGINEERING	BILL OF MATERIAL ACCURACY	
	INVENTORY CONTROL	MATERIALS	INVENTORY ACCURACY	
	ROUTINGS	ENGINEERING	ROUTING ACCURACY	
OPERATIONS MANAGEMENT EXECUTION	SUPPLY PARTNERS LOGISTICS	PURCHASING	SCHEDULE PERFORMANCE	
	HIGH VELOCITY MANUFACTURING	MANUFACTURING	SCHEDULE PERFORMANCE	
	DELIVERY PERFORMANCE	GENERAL MANAGER	DELIVERY PERFORMANCE	
		CLASS	AVERAGE	TOTAL
PERFORMANCE				

Figure 4

5. Organizational Accountability

The most effective way to create the necessary accountability in the process of improvement is to have regularly scheduled process review meetings chaired by the process owner. The process owner is not always the person to execute the plan, but instead, the person to help, and the one who has the responsibility to drive the improvement process for that particular area.

6. Handshake Management

When an organization decides to make the commitment to implement ERP, it commits to major changes, new ways of doing things, and new ways of thinking. There will be excitement generated, and in the best environment creativity will flourish. If the general population within the organization is afraid to try new things, positive change will not happen as it should. The way to ensure the most creativity is to create an environment where people are coached and expected to take some chances with new ideas that are anticipated to make a positive influence. The resulting enthusiasm can become dynamic.

Management must display a positive attitude supporting empowerment. This means giving the authority to initiate change, allowing it, and rewarding it. This is handshake management, the antonym of fox hole management. Symptoms of fox hole management include waiting to prey on employees who make a mistake regardless of the motivation behind it. Blame or finger pointing is an important goal in fox hole activity.

Figure 5

Keep the focus on opportunity and the future, not on blame and the past. Handshake management is making the decisions based upon fact rather than emotion. It is focusing on the process not the person.

7. Project Organization

The project leader and the team are integral to the success of the implementation.The project manager should report very high in the organization. Most companies have the project manager report directly to the CEO or president. Do not have the project manager report levels down in the organization. This again sends the message that the project has a low priority. The ERP project cuts across all functional areas and there is only one place in the organization where that happens in a company - at the top!

The project team should have representation from the entire organization. With an objective to manage all the resources in the business enterprise there should be representation from all functional areas.

Project Organization

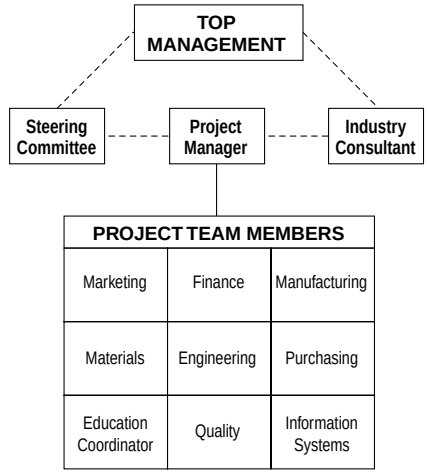

Figure 6

The team members will report to the project manager with a dotted line reporting structure while still reporting to their existing functional managers in daily activities.

8. Project Plan

The development of an overall Project Plan is an important undertaking for the team. Once established, it represents a constitution that can provide needed guidance along the way. This is not to say that there will be no revisions to it as the team and organization gets farther into the project. Rather, the

project plan document continues to be enhanced with additional tasks as they become known.

The team should be charged with the task of mapping the course of attack. A recommended way to begin the project planning process is to start with the ERP checklist in this article. These are main components that must be dealt with in the implementation of ERP and can well serve as the nucleus of the plan.

The Project Plan should be broken into the following components:

A. *Mission Statement* - the mission statement agreed to by the project team and steering committee should define the scope and objectives of the project.

B. *Operating Plan* - the operational component of the project plan deals with the specific tasks, time frames and responsibilities to improve the operating performance in the business. This portion of the plan is often an overlooked component of the project plan. The vast majority of ERP implementations have a very detailed plan to implement new software. But, there is little written into the plan about how performance will be improved, the time frame it will be improved, the ownership or responsibility and the specific actions required to improve the performance in a given area or process.

C. *System Implementation Plan* - this portion of the overall plan defines how the new business system will be implemented. Like the operational plan there should be a definition of tasks, time frames, and responsibilities. The systems implementation plan is normally developed by information technology and project operating personnel.

D. *Education and Training Plan* - as discussed in Step 1 of the ERP Checklist, the companies that are successful in their implementation educate and train 100% of the workforce. A phased education and training plan should be developed so everyone receives some form of education and training.

9. Business Processes

One of the characteristics of high performance companies is their predictable level of operating performance. These companies have instilled a habit of ongoing continuous improvement throughout the enterprise. Business processes have been scrutinized to eliminate non-value added activities through factory and business simplification.

Companies striving to receive the maximum payback from their implementation of new business systems review business processes to eliminate variation from the process and improve operational performance. Typical examples of business processes that companies must get in control in their implementation are:

Bills Of Material - 99% Accuracy	Inventory - 98% Accuracy
Routings - 99% Accuracy	Sales & Operations Planning

The Sales and Operations Planning process is at least a monthly review and update of forecast demands and establishing rates of output in the form of an operations/production plan.

10. Technology Evaluation

The activity of technology evaluation is, unfortunately, where most companies begin the journey to ERP. Experience has shown from surveying, working in and working with companies that approximately 25% of the benefits of ERP might be derived from new software tools. Benefits of new software typically include:

A. *System Integration* - the new software is an integrated package whereas the existing company systems might be standalone or not fully integrated. In this situation it is not unusual for the company operating personnel to be taking data out of one system only to input it into another system.

B. *Increased Functionality* - again, the new software may provide increased functionality that the current system does not provide. Typical software module areas of improvement might be forecasting and master scheduling, where as in the past these functions were probably maintained manually.

BENEFITS

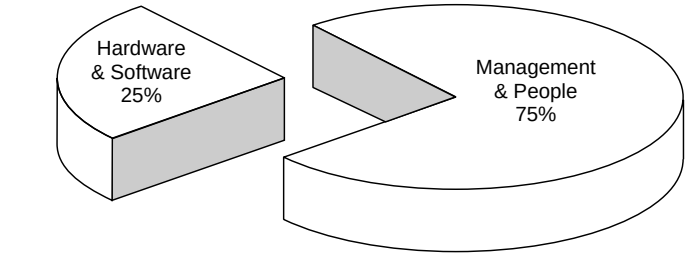

Figure 7

Choosing Software
There are entire books devoted to the requirements for Enterprise Resource Planning software and how to choose the software package that best fits the company's needs. Rather than try to duplicate that effort here, let's concentrate on important points in the selection process.

Software Selection Methodology Consists of Six Steps:

1. **Definition of Requirements**
   Developed by extensive interviews of company personnel.

2. **Software Selection Team**
   Company must activate a business system selection team with functional representation from each area of the business.

3. **Compiling Business System Requirements**
   Developed from user interviews, requirements are determined along with a request for proposal.

4. **Identification of System Providers**
   Identify the 3-4 best system providers based upon software requirements.

5. **Demonstration By System Providers**
   Each provider will be requested to demonstrate their product. Each firm should be required to identify the following:

   A. Personnel to be involved in the support of the new business system installation. This would include resumes, list of time with the system provider, number of times they have been involved in an implementation of the software and list of reference sites from their implementations.

   B. List of client companies that have fully implemented the business system. This list should not include just personnel from information technology but also operating personnel references.

   C. Dunn & Bradstreet financial/credit analysis.

   D. Definition of future software direction of the system provider.

6. **Analysis and Recommendation**
   The company software selection team rates the system providers and makes a specific recommendation to management.

Implementing Software

There are two distinct schools of thought when it comes to software application to a company business environment. One position is to argue that there is no software product that truly meets the company needs. “Our business is different,” or “we do not operate the way the software does or is forcing us to in this area.” In this case, companies purchase a software product and set about altering the product to the current business environment. Many companies spend as much time and money altering the product as they paid for it in the first place. Experience has shown that companies typically end up modifying new software to look like the old product they operated with. For example, screens and reports are modified at user request to change the new tool because the user is used to a particular format or screen.

Another major reason for software modification is that the company does not want to address the issues which implementing the new software surfaces. Rather than management addressing each surfaced issue on “how and why we do business this

way", the issue is bypassed in favor of software modification. This is not to adulate an approach where companies change their business to fit the software. However, what successful companies are doing is looking at their operational performance and mapping business processes to identify areas of improvement. From this it can be determined how software fits and how it should be implemented. The recommendation is to think of software as a 90%+ to 95% solution.

In other words, when modifications are discussed, break them into two simple categories. First, a need to modification. A "need to" modification is a show stopper. This basically says the project can not move forward until this change is made. These are the modifications to discuss as a team. If the decision by the team is that the ERP project cannot proceed then the modification probably should be made. The second category is the "nice to" modifications. These are modifications to the software people would like to have. These types of modifications are normally due to what was discussed before where people are used to the old screens and reports and want them back.

It is also important to understand that when the new software was purchased part of the decision set was probably due to the software supplier's company stance to continue to upgrade and improve their product. Too many company modifications in this case would make it extremely difficult (time and money) to convert to the newly released upgrade or version.

Summary

Hopefully it has become apparent that achieving Enterprise Resource Planning is not about implementing a new computer system. What makes companies truly successful is their approach and understanding of training their people, and focusing on company operating performance and business processes to drive a habit of ongoing improvement in the business enterprise.