

# THE COMPLETE GUIDE TO ERP

Everything a Manufacturing  
Professional Needs to Know About  
Enterprise Resource Planning

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# INTRODUCTION

The topic of ERP can sometimes seem complicated and overwhelming, but the ERP experts at MAX are here to help. This eBook covers all the bases, helping manufacturing professionals understand the ins-and-outs of ERP and how they apply to your business. Read on to learn the basics of ERP, what type of companies benefit most and how, the fundamentals of implementation, how to select the right software, and more.

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A man in a factory setting, wearing safety glasses, yellow earplugs, and a black polo shirt with a logo. He is standing near a red industrial machine. The background shows a factory floor with various equipment and materials.

# ESSENTIAL ERP BACKGROUND KNOWLEDGE

An overview, brief history, and list of ERP terms and definitions.

As one of the longest standing ERP vendors, the fundamentals of ERP seem second nature to us at MAX. It isn't until we're posed with questions like, *"what actually is ERP?"* or, *"how do I know if my manufacturing company would benefit from ERP?"* that we're reminded of how complex (and even intimidating) the topic of ERP can be. So we put together this guide to take the mystery out of ERP.

# WHAT IS ERP?

ERP is an industry acronym for Enterprise Resource Planning, but even the full name doesn't give a great explanation of what ERP does. Broadly, ERP refers to a system that automates and integrates a company's core business elements to increase efficiency and simplify operations. It is a comprehensive system that includes all the software pieces you might need to run your manufacturing operation.

For a deeper understanding of what ERP does, it's helpful to take a step back and think about all of the processes that are essential to running a manufacturing business, including production planning, materials management, financials, customer relationship management (CRM), quality and compliance programs, customer service, and beyond. The purpose of ERP software is to have one complete system that supports and integrates all of these functions, in order to streamline processes and information across an entire organization. By creating a smooth flow of information that is always in sync, employees across all divisions (for example, accounting and sales) have access to the same, consistent information.

Most commercial ERP systems also offer synchronized reporting and automation tools. Instead of relying on separate databases and spreadsheets that employees need to consistently update, and then putting someone in charge of manually merging them all to generate reports, some ERP solutions give you the ability to pull reports from one central system. For example, with sales orders automatically flowing into the financial system without the need for the additional step of manually entering and sending new orders to the order management department, the order management department can process new orders more quickly and accurately, and the finance department can close the books faster.

Other common ERP features include a portal or dashboard to enable external stakeholders to securely access relevant information regarding the business's performance on key metrics. Most ERP systems can be deployed on-premises or in the cloud.



# BRIEF HISTORY OF ERP

While the term ERP was coined in 1990, its roots date back to the sixties, when a researcher at IBM published research on the concept he dubbed material requirements planning, or “MRP.” His concept provided manufacturers with a method for planning the quantities of materials and components necessary to complete a production plan and the timing needed for phasing them so that the materials arrived very close to the time when they would be required to keep production running.

During next decade, material requirements planning morphed into **manufacturing resource planning** or “MRP II.” MRP II provided techniques for smoothing the production plan by adding capacity planning, scheduling, and forecasting to material requirements planning.

In the 1990’s, ERP Systems began to include operational processes, graphical user interfaces and back-office functions like human resources and accounting. ERP has continued to expand to encompass business intelligence and incorporate “front-office” functions. Efficiency of all work centers is the main goal of ERP.

With these advancements, companies of varying sizes and from a broad range of industries are now rapidly adopting ERP systems. This diversity can also be attributed to new ways of minimizing IT and infrastructure cost such as the availability of private cloud ERP solutions, which has made ERP more affordable, easier to implement, and more widely available. Although ERP is now used across industries, **the heart of ERP software for manufacturers is still MRP.**



# ERP DEFINITIONS

## Definitions of Common Terms Related to ERP

- Enterprise Resource Planning (often called ERP, ERP system, or ERP software):** A system that automates and integrates a company's core business elements to increase effectiveness and simplify operations. It is a comprehensive system that includes all the software pieces you might need to run your manufacturing operation.
- Lean Manufacturing:** A systematic method for the elimination of waste within a manufacturing system. Lean also takes into account waste created through overburden and waste created through unevenness in workloads.
- Business Activity Monitoring (often called BAM):** A collection of tools that allow you to manage aggregations, alerts, and profiles to monitor relevant business metrics.
- Materials Requirement Planning (often called MRP):** System that is primarily material oriented. Many ERP systems have grown from an MRP system. Finding an ERP system with strong MRP functionality is essential for manufacturers.
- Manufacturing Resource Planning (often called MRP):** Acronym changed from Materials Requirements Planning to Materials Resource Planning during the decade of the seventies, which was known as the era of MRP II, and added scheduling, capacity planning, and simulation capabilities.
- Front-Office:** A front office application is any software that has a direct relation to customers. It provides functionality and data necessary to take orders, configure complex products and provide effective service and support to customers. It includes customer relationship management (CRM), customer support, service management, document management, workflow process management, field service, etc.
- BOM:** A bill of materials or product structure (sometimes bill of material, BOM or associated list) is a list of the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and the quantities of each needed to manufacture an end product. A BOM may be used for communication between manufacturing partners, or confined to a single manufacturing plant. A bill of materials is often tied to a production order whose issuance may generate reservations for components in the bill of materials that are in stock and requisitions for components that are not in stock.
- WYSIWYG:** Acronym for "What you see is what you get;" Refers to a feature of a software tool that allows you to edit or input information and see it exactly as the data will appear and be displayed within the system, as compared to using codes or spreadsheet-style data entry that will be translated by the software and appear differently than it did during the data entry process.
- BPM:** Business Process Management
- Cloud Deployment:** A Private Cloud deployment lowers IT infrastructure overhead and ensures your data is protected around-the-clock within a managed data center. Private Cloud allows companies with remote sites to share the same ERP installation and data, enabling multi-site ERP software access
- On-Premise Deployment:** A traditional ERP deployment that means installing the system onto servers in your facility. Companies that have an established IT infrastructure or are willing to invest in creating and maintaining their own servers are usually interested in implementing ERP on-premises.
- MCS:** MCS stands for Manufacturing Control System. MCS is the generic model taught by APICS, the Society for Operations Management, on which ERP is built on. It visually expresses the design of any ERP system.

In conclusion, ERP software helps to eliminate redundant processes and systems, dramatically lowering the cost of doing business overall. ERP implementation is where planning and profitability intersect, allowing you to streamline your manufacturing processes with software that helps you achieve a more controlled, paperless shop floor. With ERP, you can rid yourself of duplicate data entries in disparate databases, unpredictable cost, quality and accuracy, and employee redtime, all of which cost you time and money, and hinder your manufacturing company's potential for growth.





## UNDERSTANDING THE BENEFITS OF ERP

### Why a Manufacturing Company Should Implement ERP.

It's getting tougher to stay competitive in the manufacturing industry. Companies are striving to become more efficient, ensure regulatory compliance, improve customer service, and more effectively utilize resources in order to stay competitive. Luckily, there's a solution to help accomplish all of these objectives.

# TOP 11 BENEFITS OF USING ERP

## 11 Reasons Why a Manufacturing Company Should Implement ERP

It's getting tougher to stay competitive in the manufacturing industry. Companies are striving to become more efficient, ensure regulatory compliance, improve customer service, and more effectively utilize resources in order to stay competitive. Luckily, there's a solution to help accomplish all of these objectives.

You may have read about the ways in which ERP helps you achieve tighter shop floor control, or heard about the time and material cost savings ERP brings—and you may be concerned that the stories sound too good to be true. You wonder, can ERP really work for my business and deliver on all that the vendors promise? The fact is, ERP can do all this and more. We have seen it happen time after time, and witnessed manufacturing companies reach their goals by implementing an ERP solution firsthand. And if you're thinking you can't afford an ERP system, that's simply not the case. If you choose the right vendor, ERP is affordable, even for a small business.

### Some of the main benefits of ERP software are:

#### **ERP enables growth**

Many companies feel that they can make do using spreadsheets or manual lists to manage their business, but this decision may make growth a slower and more painful process than it needs to be. By putting an ERP system in place, your company will not only be able to better manage your inventory and resources, but you'll also have access to more reliable information upon which to base important business decisions which will fuel growth.

#### **ERP creates efficiencies**

If you're running things manually, you might find it hard to enforce common processes across your organization. Consistency is the key to efficiency in manufacturing, and ERP creates the consistency needed to streamline your manufacturing processes and improve deliverability. ERP helps you automate tasks so you and your employees can shift focus to value-added activities and spend less time on administrative tasks.

#### **Consolidate disparate databases**

If there is a lot of paper moving around your company, but very little real communication occurring, an ERP solution can help. ERP provides a single source of truth and enables you to improve communication between departments. Instead of

storing important documents and spreadsheets on personal computers, you can house all your important documentation in a centralized database that eliminates redundancies. Once a piece of information is entered in your ERP system, it automatically flows to every area that may need or use that piece of information. This increases data accuracy because there is no need for duplicate entry of any piece of information. When every employee can access the specific information they need quickly, all from the same integrated system, your entire business runs more smoothly and you waste less time hunting down information and verifying its accuracy. With all this data at your fingertips you can analyze and adjust production issues as they arise, instead of waiting weeks or months to react to issues and make modifications.

#### **Manage compliance and regulatory requirements**

Do you operate in a regulated industry such as electronics, medical device or food processing? If so, you know that failing to meet quality and compliance standards can lead to large fines as well as unhappy customers. ERP helps you avoid such situations because it helps you define processes to manage regulatory requirements and maintain compliance. An ERP system also makes it easier for you to keep detailed records of all activities for audits and other historical purposes, without the fuss of manual tracking and processing. ERP can help ensure that your team adheres to proper procedures, so that you can rest easy.

#### **Conduct accurate material planning and control inventory**

Perhaps you have trouble maintaining accurate inventory counts and your physical counts seldom match your perpetual inventory records. This wreaks havoc with your production efficiency, since parts are not available when you need them. Now you're dealing with delivery delays that upset your customers who will eventually find a vendor that has a better handle on their business. ERP helps you address all these issues. With ERP in place, you can improve your on-hand inventory visibility, increase accuracy and reduce overhead. As a result, in only a short period of time, you'll start to see planning, scheduling and customer service improvements.

#### **Accurately cost your product**

An ERP solution will help you quantify the cost of labor, time, and equipment, and know exactly how much material and labor every order, part and operation consumes. Use ERP to track cost variances for material costs, labor costs and



purchase costs. Your accountants and auditors will be able to see a full range of reports and inquiries that will help them analyze cost performance and easily compare actual costs with planned costs.

#### **Deliver product on time**

Your customers expect to be given reliable shipment and delivery dates when they place an order. Most likely, they do not want to wait for a call back, and they won't accept bad dates for too long before they move on to another supplier. Well, ERP can help in this situation. ERP gives you available-to-promise capabilities so your sales and customer support teams can better manage opportunities and provide accurate delivery information from the start. MRP and production scheduling capabilities provide the information your teams need to make decisions on expediting, overtime and other factors.

#### **Create meaningful reports with ease & efficiency**

Manual systems are error prone. Without an ERP system in place, you may find that your business information is not reliable. You (or others at your company) may also be relying too heavily on guesswork or "rules of thumb," which can lead to ineffective decision-making. An ERP system will help you combat these challenges by collecting a robust amount of data that can be used to build meaningful reports. With those reports, you can achieve the level of transparency you need in order to make sound business decisions.

#### **Improve customer service**

Companies that treat customer service as a top priority fortify the intimacy of their customer relationships and

in turn retain a high level of customer satisfaction. The most efficient ERP software packages allow you to access every detail about a client from one screen, including order inquiries, billing information, invoices, and both past and current orders. This keeps all members of a sales team informed, eliminating time needed to hunt down the right person to answer a customer's question.

#### **Improve decision-making ability for management**

Without ERP, management has to either wait until the numbers come in at the end of the month or quarter to make decisions, or make decisions based on data that is weeks or months old. Because ERP puts timely and accurate information at management's fingertips, numbers can be analyzed in real time. This allows management to make present-day decisions based on current data at any given time of the year, and also to make better decisions for the long term.

#### **Level the technology playing field across all departments**

Rather than having different programs and technologies used in different departments, an ERP system puts everyone in the organization on a level playing field when it comes to data and technology. This allows for increased visibility across departments, a better understanding of how each facet of the organization operates and ultimately enhanced teamwork. Less frustration and improved collaboration can improve morale and strengthen company loyalty.



A top-down view of a person with dark hair in a ponytail, wearing a blue plaid shirt, sitting at a light-colored wooden table. A green plant is visible in the background. The scene is brightly lit, and the table surface shows some wood grain and a small dark spot.

# WHO SHOULD USE ERP?

**Industries, manufacturing models, and company sizes that benefit most from using ERP Software.**

ERP software will offer a high rate of return for any company that implements it, regardless of their manufacturing model or industry. Have you noticed companies in your industry that seem to have noticeably streamlined processes, are able to get orders out faster, consistently satisfy their customers, and generally excel against the competition? Their secret is likely their ERP implementation.

The right ERP software will scale to fit different manufacturing models and different size companies, enabling you to grow and succeed as your needs change over time.

# WHAT SIZE COMPANY BENEFITS MOST FROM ERP?



For those of you still thinking, “but my manufacturing company is too small to use ERP. We don’t need it yet...”

Larger, more complex operations certainly have the most to gain from (and probably can not function without) having an ERP system in place. **But it’s not just about the size or complexity of your organization right now, it’s where you want/expect your organization to be in the future that determines your need for ERP and the benefits you stand to gain by implementing ERP.**

A lot of smaller manufacturing companies don’t think ERP is a reasonable option based on their size, but if your company plans to grow, ERP is a necessity. Your manufacturing company might be fine without ERP now... but don’t expect to grow without proactively adjusting your business processes to scale. Companies that are used to managing production and material planning manually can’t realistically expect to continue to operate that way as they expand their product line or build their customer base. Any manufacturing company expecting demand to increase will need to ramp up their processes for much larger scale production, and thus serve to benefit the most by being proactive and implementing ERP before they are “hurting for it.”

# WHICH INDUSTRIES AND MANUFACTURING MODELS BENEFIT MOST FROM ERP?

The ability to customize the components of an ERP solution based on an organization's specific needs is what enables a wide range of industries and manufacturing models to benefit from ERP. The more complex your operation, the more benefits you serve to gain through the implementation of an ERP solution. But regardless of whether you operate in a low volume/high complexity environment, or high volume/low complexity environment, the right ERP software will give you the visibility you need to create leaner operations, manage complex supply chains, and streamline your business processes to get products to market faster.

In addition to the need for visibility, SCM and lean operations, many manufacturers across different industries must also maintain compliance.

For example, the medical device manufacturing industry, electronics manufacturing industry, and food and beverage manufacturing industries all face different issues when it comes to compliance but all of these industries can manage compliance with ERP. Regardless of whether your manufacturing company is trying to achieve ISO 9000 certification, FDA compliance or simply meet Current Good Manufacturing Practices (CGMPs), or the depth and extent of your product line is driving the need for better quality control and more efficient systems to track records on quality issues -- the need to remain compliant exists. Whether quality and compliance management is required by your industry or is just a strategy implemented by your company to ensure customer satisfaction and continuous improvement, you need the right compliance management software to get the most out of your quality control program. ERP offers benefits to the full range of industries and manufacturing environments.

## Specific examples of industries that stand to benefit largely by implementing ERP:

### Aerospace

ERP software designed to facilitate government contract forms and reporting is making the aerospace industry more efficient. Integration with CAD software and real-time sharing of information from engineering with the shop floor and cost accounting keeps projects moving forward according to schedule.

ERP's central data source integrates information from every piece of the process to reduce administrative labor costs, tighten inventory control and improve cost accounting accuracy.

### Electrical Device

Flexibility and quality control are high on the top of priorities for electrical device manufacturers. The high-tech world of electrical devices operates in a state of continual evolution and change. There is no time for searching for information or the latest schematic; it needs to be immediately available to everyone connected with the project. ERP software fulfills the needs of this fast-paced industry. All processes are trimmed lean, so that both production and administration can operate at maximum efficiency.

### General Manufacturing

Regardless of your place in the manufacturing industry, accurate capacity forecasting and tight controls from the shop floor to the front office are what make a manufacturer profitable. ERP software provides all levels of management with the tools they need to improve their piece of the process. From sales representatives to the worker on the line, everyone in the organization experiences the benefits of ERP efficiency. It doesn't just improve the bottom line; it improves the whole work environment, providing a positive attitude that expects and generates success.



### **Medical**

Certificate of compliance and “cradle to grave” tracking of parts are just two of administrative complexities that are a part of manufacturing for the medical industry. Having these details automatically updated throughout your system with one entry is one of the benefits of employing comprehensive ERP software in this industry.

Medical manufacturers using ERP software demonstrate their commitment to the high standard of control expected in this tightly regulated industry.

### **Machine Building**

Time can be wasted simply directing workers to their appropriate tasks in the machine building industry. With the detailed scheduling system available through comprehensive ERP software systems, everyone knows where each project is on the schedule and where they fit into the sequence. The automated time tracking records labor hours for each individual and each part of the process they are involved in. ERP software is trimming labor hours and increasing profits for the machine building industry.

### **How do regulated industries benefit from ERP?**

Compliance with government regulations requires specific and detailed reporting. ERP software reduces the administrative aspect of government contracting. No special spreadsheets for tracking and reporting government required data. Superior ERP software eliminates the need for redundant entries and outside tracking and reporting for government jobs. ERP software makes it easier to:

- Meet DCAA compliance requirements for Aerospace, Department of Defense and other agencies
- Manage all CSCSC categories for the organization
- Maintain multiple level budgets, original and current
- Generate government required reports

Bottom line, any manufacturer that would like to improve efficiency can benefit from ERP's ability to help streamline and manage processes. And if you're thinking your company is too small to benefit from ERP or you can't afford an ERP system, that's simply not the case. If you choose the right vendor, ERP is an affordable solution with a lot to offer, even for a small business.





## ACHIEVING SUCCESSFUL IMPLEMENTATION

Preparing for the implementation process and training your team.

Few projects have as much potential for improving operations as implementing a new ERP system. Implementation requires change and any change can be disruptive and overwhelming if not managed properly, so it's important to make sure that you don't overlook the topic of implementation during the research phase of your ERP initiative.

The implementation phase is the crucial transition period that takes you from the initial purchase of your ERP software to the point where you fully incorporate it throughout all departments and utilize it across your organization.

To maximize benefits and minimize disruption, your ERP implementation needs to be thoroughly planned with a great deal of care, and commitment to the project needs to be consistent across the entire organization.

# ASSEMBLING YOUR IMPLEMENTATION TEAM

It's tempting to assume that members of your organization can add implementation tasks on top of their regular work, but that isn't realistic in most cases. Select smart and experienced people from a variety of departments to manage the implementation, and allow them enough time to devote to the implementation project. It's important not to delegate the implementation tasks solely to the IT function within your organization. Many companies make this mistake and forget that while ERP software is a new piece of technology, and new technology is usually managed by the IT department, this new ERP initiative will touch all aspects of your business and should be handled by members of management across all appropriate departments.

## Who, specifically, should be a part of the team?

Your team should be a group of leaders capable of setting the right goals and implementing a significant change across your organization. Your IT person will be heavily involved in the process, and will be responsible for any technical, connectivity, or hardware-related issues. The rest of the team should consist of members of management across departments representing accounting, scheduling, purchasing, operations, training, and any other essential business processes that will be impacted by ERP. In addition, it's a good idea to identify one specific person to be accountable for overall project management.

## The responsibilities of the ERP team are to:

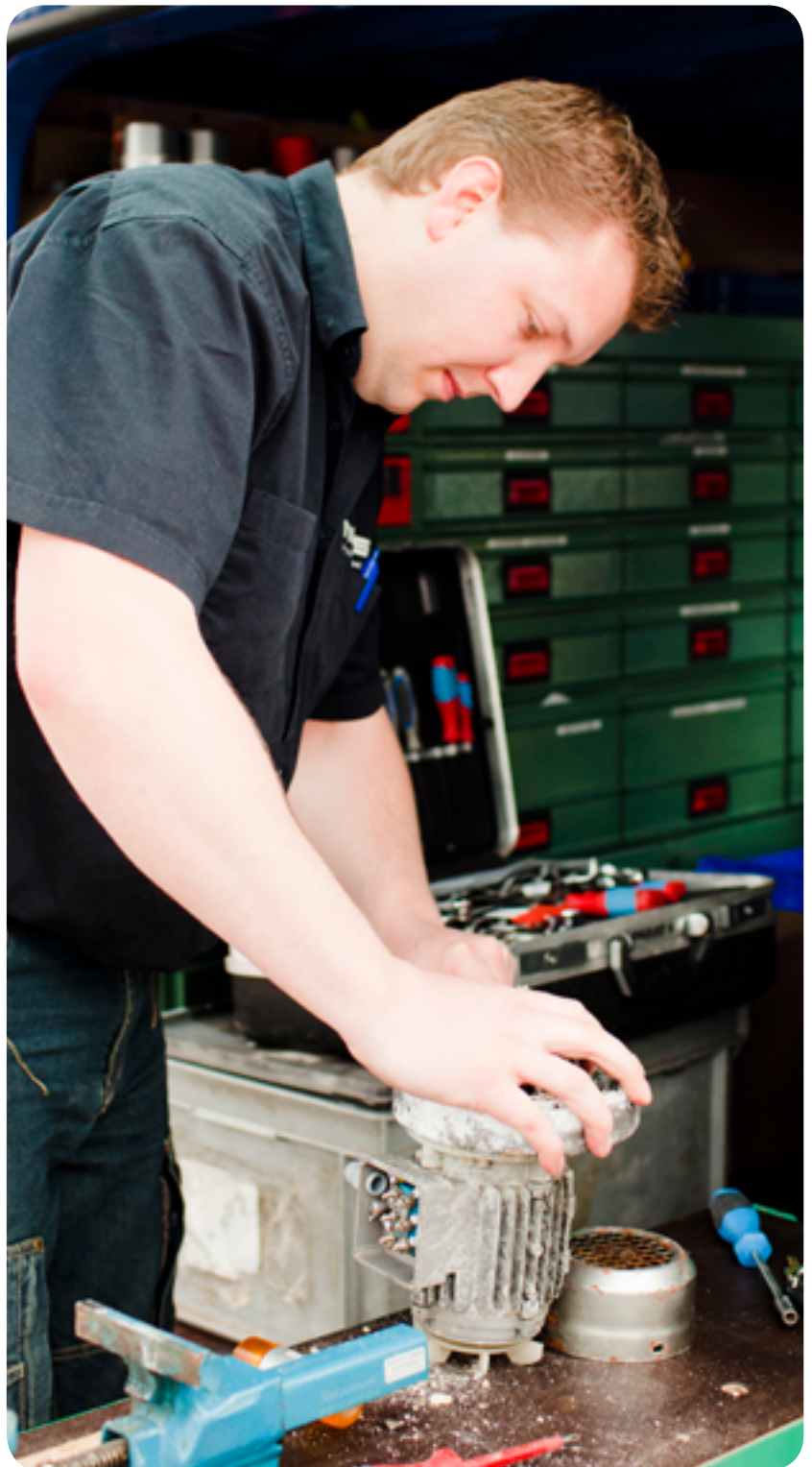
- Research available ERP software options
- Agree on a list of features and functionality that whichever software you choose must have
- Set goals and objectives for the ERP initiative, including specific standards to which processes are expected to meet/improve, ROI expectations, etc.
- These goals should be very specific and measurable. Ex: instead of "improve audit score," set a goal of "improve the score of audit on [specific audit date] by [X] points."
- Develop a written implementation plan
- Hold other ERP team members accountable to make sure deadlines are met and the project moves forward at the expected pace
- Relay exciting news to the organization to keep everyone up to speed on the status of the ERP initiative and highlight important milestones and progress
- Gather feedback from employees across the organization to make sure everyone is receiving proper training and is comfortable using the new software
- Analyze metrics to assess the success of the implementation and report on ROI (this is why it's important to set specific goals).

By creating this ERP team, you'll be able to treat your company's ERP implementation as you would any other major development or customer project and make sure everyone pulls their weight so that important deadlines and milestones are met. Nothing ruins the enthusiasm for a new system like continued delays in the go-live date. Managing the project in a way that prevents unpleasant surprises will pay off.

# DEVELOPING A WRITTEN IMPLEMENTATION PLAN

The ERP Team should develop a written implementation plan. This should define objectives, establish important milestones, set deadlines for each milestone and a firm date for going live with the software, include specific goals and metrics for measuring success, and serve as a guide to keep everyone on track. It should also include a list of all ERP team members and outline specific responsibilities of each person and the corresponding tasks.

The written implementation plan should also plan for audits at specific points throughout the process. This will serve as a way for the ERP team to assess the progress and readjust any aspects of the plan going forward to ensure success. Be prepared to adjust the timeline to accommodate circumstances that may arise during the process. Even if the project ends up getting a bit off track, if you stick to the components of the plan as much as possible, you'll set your team up for success.



# TRAINING YOUR TEAM

If you're going to spend the time and money to launch an ERP initiative, it's important to make sure that your technology not only functions properly, but is well-understood by your employees so they can focus more on improving high-value business processes and procedures and less on executing daily tasks. Training all employees to prepare them for the implementation of your organization's new ERP software is an excellent way to make sure all departments are using the ERP system as intended. Doing this well in advance of the go-live date and then offering continued training will help prevent

issues and delays due to a lack of understanding, and will ensure your company gets the best possible return on investment.

You're certainly aware by now that ERP software is a big investment, and some of the biggest reasons ERP projects fail have to do with implementation, not technology. By dedicating the right resources, sticking to a written implementation plan, and making sure your entire organization is on board and receiving the proper training, your success will start long before your software is out of the box.



A woman in a dark business suit and high heels stands on the left, holding a black folder. She is facing a man in a dark suit who is gesturing with his hands as they talk. They are in a modern building lobby with a glass entrance and a polished floor. The background shows a sign that says "BUILDING" and "OFFICE".

# SELECTING THE RIGHT ERP SOFTWARE

In this section you'll find a preview of our [ERP Selection and Implementation Toolkit](#).

You already know that manufacturers can benefit significantly from using ERP software. However, not all ERP solutions were created equally and an ERP solution that's a perfect match for one manufacturing company may not be a good fit for another. It is important to give careful consideration to both the selection of the software itself, and to the vendor as well.

Implementing an ERP system is no small matter, and it can be a dizzying exercise. Figuring out the details of what you need and what a vendor can provide *before implementation* will ensure that you get ERP right the first time — or figure out where you went wrong.

# CLEARLY DEFINING YOUR OBJECTIVES



In general terms, most companies envision improved performance and reduced costs. If you're moving from a spreadsheet environment, you probably want to reduce redundant data entry and possibly reduce manpower. If you already have a system, it may not scale to your company's growth. Or you may have focused solely on inventory when it was implemented, whereas now you need integration with engineering change orders (ECOs) and/or customer relationship management (CRM) and supply chain management (SCM). You may even need more sophisticated functionality altogether. Whatever your specific reasons, the basic expectation is that by pulling all your business functions into one system, you'll achieve greater accuracy and streamlined process flows. And with a single database to mine for all reports and analyses, changes in processes, market information, and so forth, your decision-making process will be streamlined as well.

## Differentiating process problems from software problems

Knowing the difference between process and software problems might seem simple, but consider the following real-life examples:

**Process Problem:** A food manufacturer needed 500 lbs. of flour to make one of its products. The flour came in 550-lb bags. When the workers had poured 500 lbs. of flour into the vat, they tossed the bag with the remaining 50 lbs. off to the side, where it landed in among the spices... a place no one ever thought to look for it. This process problem, of course, resulted in apparent shortages and cost overages that seemed to stem from software problems.

**Software Problem:** This same company had all its recipes programmed into Excel. Somehow or other, the measurement for spices was changed from ounces to grams. No need to describe the catastrophic results.

The moral of this story: Be sure you know what's broken **before** you try to fix it.

# SUPPORT FOR YOUR DIFFERENTIATIONS IN THE MARKETPLACE

This is incredibly important and often overlooked. Here are a few examples of what to think about.

If you're known for:

- Shipping faster than your competitors
- Low prices
- Responding effectively to customization or unique systems

Then the ERP system you select should support:

- Short lead times
- Controlled lead times
- Configuring product lines

**Losing your competitive edge shouldn't be a trade-off.**

## Modularity, scalability and integration

Many systems offer hundreds, if not thousands, of features... most of which you won't need. This is especially true if you're embarking on your first ERP implementation.

Don't be dazzled. The key issues are whether a system:

- Does what you need it to do now, without your having to implement any more than the necessary functionality.
- Has the capability to grow and change as your needs do. This should include APIs for writing integrations for, say, a current or proposed CRM or SCM system.

With that in mind, there is a key factor not to be overlooked: No system will be a perfect match for what you're looking for. For example, you may have found one that does everything you need it to but doesn't work with your current financial package. Could you have it customized? Of course. But the implementation would be much more expensive and, down the road, you could potentially run into problems with both support and upgrades. So what makes more sense? Customizing or simply migrating to a compatible financial package? These are issues you have to weigh for yourself.



# VENDOR SELECTION



## ERP MADE EASY

To help you select and implement the right ERP system, we created an entire toolkit full of resources. [Download your free toolkit for access to the Top Factors for Implementation Success, Vendor Selection Tools and more!](#)

In the context of change management, it was mentioned that one of the biggest reasons ERP projects fail has to do with people, not technology. This is especially true when it comes to selecting a vendor.

A little-known secret is that many companies that are desperate to replace their current system are actually having vendor, not software, problems. Perhaps with a few simple customizations or upgrades—or even just training on features they already paid for but have never used—their system may, in fact, be adequate to meet their needs. But lacking continued guidance and support from the vendor, they haven't a clue. So what should you look for in a vendor?

### Experience with Manufacturing

First, does the vendor know manufacturing? You might think, Well, of course they do. "Ain't necessarily so," as the song goes. How can this be? Over the past decade or so, there's been a tremendous push to integrate ERP with financial systems. At this point, most ERPs you'll find out there have been developed by financial companies with no real understanding of or experience with manufacturing or production. The developers can build a system that runs properly but not necessarily do what's needed, since they can't differentiate between what's important and what's not important in a manufacturing environment. Here are some ways to separate the manufacturing pros from the pretenders: Ask them if they've ever worked in manufacturing (not just selling MRP or ERP software) and for how long? Do they want to walk the grid with you? As you move from area to area on the shop floor, do they understand what they're looking

at? Do they ask meaningful and relevant questions? Or do they sit in the conference room with you, talking features and benefits from a PowerPoint presentation and filling in forms?

### Experience with Your Specific Product[s] and Manufacturing Methods

The fact that a vendor has been around forever doesn't mean they offer what you need or that they can intelligently partner with you. What kind[s] of manufacturing do they specialize in? Who are their customers? Does the number or percentage of customers with products and methods similar to yours equate to "experience?"

### Support

The overriding question is: Will they be there when you need them? Not just during implementation, but afterward. How accessible are they once the project is "finished?" And when is the project finished? When the software is installed? When it goes live? When all your staff is trained? When you know it's working properly? In general, do they offer the customer care you need and want?

Besides asking the vendor specific questions about what their ongoing responsibility is to you, ask to speak with current customers whose business is similar to yours. The vendor will, of course, give you only the names of those who are satisfied, but canny questioning can reveal a lot more than you may at first think. Even asking the simple question, "Do you feel as if they had [or have] your best interests at heart?" can be very telling. (Of course, if a vendor won't give you specific people to call, just move on to the next name on your list of partners.)





# BUILDING A BUSINESS CASE FOR ERP

How to justify cost and demonstrate the ROI of an ERP Initiative.

One of the most difficult (and most important) steps involved in an ERP initiative is building a business case. It's not easy to convince the people with the authority to write the checks that they should invest in a new system, especially when this often involves changes to business processes that may have worked just fine for many years without failure.

There are a few key steps that will help you establish a convincing case for investing in a new system and put your company on the path to realizing greater profits and a return on investment (ROI) that is worth the risk involved.

# WHY IT'S IMPORTANT TO EDUCATE FIRST

One of most important ERP project critical success factors is executive buy-in and support. Key people need to learn about ERP before they can do a proper job of evaluating costs, risks, and benefits. Otherwise, it's like trying to build a house on top of sand. They need to learn five crucial elements:

- What is ERP, Anyway?
- Benefits of Using ERP Software
- Who Should Use ERP?
- How is ERP Implemented?
- How to Select the Right ERP Software

Many companies make the mistake of presenting a business case before they take the time to educate the decision makers without realizing that they can't justify the cost of ERP if they don't really understand what it's all about. Without the proper background knowledge, your job of presenting a convincing business case will be much more challenging. Decision makers will likely underestimate importance of the initiative and have it

in their heads that ERP is just part of a computer system and that this is just a software project, which will result in misconstrued perception of the costs, benefits, and risks involved. On top of that, they'll almost always underestimate the benefits. If they think ERP is a computer system, it then becomes very difficult to establish ERP implementation as a high priority across the company.

Who needs this education? Any decision makers you'll be presenting the business case to, including top management and operating management. Don't include more people than necessary, but make sure that anyone who will be held accountable for costs, benefits, and overall success or failure of the ERP initiative is involved. It can be difficult to get participation across the board on this education process, but it's key to your success as an organization, so don't hesitate to lead and present educational materials yourself and frame it as part of the business case presentation.



# HOW TO DEVELOP A DEFINITIVE SET OF CASE JUSTIFICATIONS

Once you've educated your decision makers, the next step is to present your case. The easiest way to do this is to put together some fact sheets to present on the following:

- **Alignment** - Create a list of ways the ERP solution you're recommending aligns with your organization's goals, business process, and daily operations and why they're a good fit
- **Benefits** (both tangible and intangible) - a list of benefits, what goals they align with, and how success will be measured.
- **Risks** - Create a list of investment risk factors and the corresponding concerns/implications

The next step is to present a cost/benefit analysis. Instead of just throwing a massive price tag on your ERP initiative, your decision makers will be much more receptive if you present a carefully outlined list of the anticipated costs (expenses) and benefits (income). You should present each item in a way that tells your project expenses as more of a complete story, leading up to and preparing your decision makers for the final price tag and anticipated ROI.



# HOW TO PRESENT YOUR COST/ BENEFIT ANALYSIS

Here's an example that we found in an excerpt from [ERP: Making It Happen: The Implementers' Guide to Success with Enterprise Resource Planning](#) by Thomas F. Wallace and Michael H. Kremzar. To illustrate the process, they created a hypothetical company with the following characteristics:

Annual sales: \$500 million

Employees: 1000

Number of plants: 2

Distribution centers: 3

Manufacturing process: Fabrication and assembly

Product: A complex assembled make-to-order product, with many options

Pretax net profit: 10 percent of sales

Annual direct labor cost: \$25 million

Annual purchase volume (production materials): \$150 million

Annual cost of goods sold: \$300 million

Current inventories: \$50 million



### Here's how this hypothetical company would present their cost/benefit analysis:

#### COSTS

ITEM	ONE TIME	RECURRING	COMMENTS
<b>COMPUTER</b>			
Hardware	\$400,000		Costs primarily for workstations.
Software	500,000	\$75,000	Can vary widely, based on package
Systems and Programming	2,500,000	200,000	Adapting the software to your company and training in its use. These costs are pegged here at 5 times the software purchase cost.
<b>DATA</b>			
Inventory record accuracy	700,000	100,000	Includes new equipment and added cycle counters.
Bill of material accuracy and structure	200,000		Bills will need to be restructured into the modular format. Experienced engineers will be needed for this step.
Routing accuracy	100,000		
Forecasting	200,000	100,000	Full time person for Sales forecasting. Needs to come on board early.
<b>PEOPLE</b>			
Project Team	1,200,000		Six full-time equivalent people for two years.
Education	800,000	100,000	Includes costs for education time and teaching the new ES interactions to the organization.
Professional guidance	400,000	50,000	4 days per month during installation.
<b>SUB-TOTAL</b>	<b>\$7,000,000</b>	<b>\$725,000</b>	
Contingency	\$8,050,000	\$834,000	
+15%	1,050,000	109,000	A conservative precaution against surprises.
<b>TOTAL</b>	<b>\$9,100,000</b>	<b>\$943,000</b>	

**BENEFITS**

ITEM	CURRENT	% IMPROVEMENT	ANNUAL BENEFITS	COMMENTS
Sales	\$500,000,000	7% at 10%	\$3,500,000	Modest improvement due to improved product availability at the profit margin of 10%
Direct Labor Productivity	25,000,000	10%	2,500,000	Reductions in idle time, overtime, layoffs, and other items caused by lack of planning and information flow.
Purchase cost	150,000,000	5%	7,500,000	Better planning and information will reduce total purchase costs.
<b>INVENTORIES</b>				
Raw Material and WIP	25,000,000	10% at 15%	380,000	2,500,000 One time cash flow.
Finished goods	25,000,000	30% at 15%	1,130,000	7,500,000 One time cash flow.
Obsolescence	500,000	30%	150,000	Conservative savings
Premium freight	1,000,000	50%	500,000	Produce and ship on time reduces emergencies
<b>SUB-TOTAL</b>			<b>15,660,000</b>	<b>\$10,000,000 One time cash flow.</b>
Less costs for:				
Contingency		15%	-2,349,000	1,500,000
Recurring			-720,000	
<b>NET ANNUAL BENEFITS</b>			<b>\$12,591,000</b>	<b>\$8,500,000 One time cash flow.</b>
Cost of a one month delay (Total/12)				\$1,049,250
Payback time (One Time Cost/monthly benefits)				7.7 months
Return on investment (Annual benefits/One Time Costs)				193%

**Once benefits, costs and risk are quantified and analyzed, an ERP investment can then be appraised and (hopefully) approved.**

By following the steps outlined above, you'll be able to clearly and articulately build a business case for your ERP initiative and make sure your audience is making an educated decision. Getting the executive support and buy-in for your ERP initiative will lead your organization to success.

# SEE MAX IN ACTION

Visit us at [max4erp.com/events](http://max4erp.com/events) to register for an upcoming webinar so you can see for yourself why so many manufacturers rely on MAX for ERP.



## GET YOUR QUESTIONS ANSWERED BY A MAX EXPERT

Choosing the right ERP solution doesn't have to be a daunting task. Get in touch with a MAX Expert by calling 1.855.392.2862 to schedule an introductory consultation. You won't believe how easy it can be to use MAX to help you control your business.

If you have any questions about our products and services, please contact us at 1.855.392.2862 or visit us online at [www.max4erp.com](http://www.max4erp.com).

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// Things were getting out of control with divergent systems. We needed a more integrated approach and we found it with MAX."

**DCA MANUFACTURING**  
Carl Proescholdt, General Manager

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MAX ERP software is an Exact product for manufacturers. Exact builds business software for SMEs and their accountants. Our innovative technology is aimed at specific business needs, providing an overview of today and insights into the opportunities of tomorrow. Exact inspires businesses to grow. Our 1,600 employees love, share and support our customers' ambition. Like them, we aim high. Like them, we aspire to lead the way. That's how we know it's a bumpy road to success. And that's why we build software to help smooth it out, enabling our customers from all over the world to grow.

**MAX. ERP software for manufacturers.**

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