

# Critical Success Factors for Implementation of Enterprise Resource Planning Software

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**Abstract** — Ensuring the successful implementation of Enterprise Resource Planning (ERP) software depends on a few critical factors. Nowadays, ERP is generally used in giant corporations, while a few small and medium enterprises use this important tool. But with that said, several companies are not able to utilize ERP to its full potential because of an inadequate implementation approach. Being able to see a unified approach of all departmental operations can streamline processes to a greater extent, and that's where ERP comes in. And even though several vendors have created affordable packages for ERP systems, they can still be a massive investment for most organizations. For many organizations, the cost alone is one of the reasons why they do not go for an ERP system altogether. But once you are done dealing with the sticker shock, you can realize how enterprise resource planning can lead to a positive return on investment. Not only are you saving money, but you are also saving time. Moreover, there is no longer a need to train your employees on several different kinds of software once an ERP system consolidates everything under one roof. This, in turn, means that you do not have to schedule training sessions with many vendors; you just have to schedule a workshop with one.

**Keywords** — ERP Implementation, ERP System, Critical factors

## I. INTRODUCTION

An ERP system can possibly be one of the biggest investments an organization has to make. Not only does the process require money and time, but it also requires mutual collaboration and synergy. The enterprise resource planning implementation process, timeline, phases, and complexity are most dependent on the number of modules an organization chooses to deploy, the amount of data being converted, the customizations needed, and the project management sources available. Depending on the approach an organization chooses and the complexity of the process involved, the procedure can take somewhere between three months to two years. On the other hand, implementing core modules (General Ledger, Accounts Receivable, and Accounts Payable) can be done quickly. Aligning these modules with manufacturing processes and the essential workflow can take a lot of time. But regardless of the speed, you decide to go with for the software implementation process, having a thorough and well-documented plan is vital.

Because of the resources an organization can put at risk during this process, it is crucial that organizations understand the process completely. Once ERP has been implemented, and the software is live, employees can take a long exhale. All hands will be on deck because employees will start to adjust to the new system, and soon enough, the system will start paying its dividends. Once the dust has settled, and the system is running swiftly, you will want to review if the implementation process has achieved the assigned goals. This means an ERP implementation is only good as the factors you pay attention to while adopting it.

### A. Clear Goals and Objectives

Deciding beforehand what you want the software to do for your business is vital. When enterprise resource planning software is implemented, companies can stay in touch with real-time information about their business processes. Overall, ERP is a software package that blends different applications to integrate data and show information. If your goals and objectives are clear enough for the implementation team to understand, you manage your resources better.

When the finish line is in clear sight, the software involved in the process can be upgraded accordingly, and workflow can improve. It is also worth noting that 60% of all ERP implementations fail because organizations often underestimate the importance of setting clear goals and objectives.

First and foremost, organizations need to consider the impact of the software implementation on their business processes and the people who work under them. The shift to a new style of working can be daunting for some people, but if the objectives are clear, it does not have to be!

### B. Management Support

The upper management in any organization is a major stakeholder in the ERP implementation project. To ensure the project succeeds indefinitely, it is essential every step of the process is communicated to departmental heads, and they are engaged in the procedure. It is also vital to have an effective feedback procedure to channel and complaints or concerns the management might have to address the issues that can come up.

During any software implementation, the upper management is responsible for providing the essential resources. If the team responsible for the ERP has not communicated with the upper management, then having the essential resources might not be possible. When few employees are freed up to help



with the implementation process, managers need to fill those positions by temporarily assigning those responsibilities to another employee or hiring people on a contractual basis. Ideally, additional costs like these are a part of the overall cost of a new ERP system.

### **C. Requirement Gathering**

Having the right requirements for your ERP system is absolutely essential if you're trying to move towards swifter operations. Start by assembling a team of people who will create a list of the software's important requirements. The core team members will be subject matter experts (SME). Since the ERP system is implemented company-wide, try to include at least one member from every functional facet of your business.

Understandably, every business is unique, but *every* business has a defined team for finance and sales. Other important parts can be software development, supply chain, engineering, and production. Less important parts of the process can be the external compliance experts who are needed on an ad-hoc basis. While there is no optimal number of SMEs you can include, if your conference room is overflowing, try to make some cuts so it is manageable.

The requirement gathering can also include people who are not a part of your organization. You can include a consultant who is an expert in developing ERP systems, and they might tell you the agnostic requirements of the process. Some businesses also reserve a seat for their financier, but this can matter if your business is a startup or another organization's subsidiary. If you ask them, they will definitely want a seat in the gathering.

### **D. Selection of Enterprise Resource Planning Software**

Very often, organizations get confused by the promises different vendors can make. This is because, in some instances, these claimed guarantees never see the light of the day, and businesses are not able to see a significant increase in profit. Companies often struggle the most with software implementation when the upper management *is not* on board. Nowadays, selecting an enterprise resource planning software depends on different factors like the current technology, the software's price, and whether a similar business has relied on the same software.

However, when these considerations are not made, companies are left swinging for the fences by making expensive customizations and bolting together make-shift solutions that do not work. When you are making a selection, try to find software that is relevant to the industry you operate in and *designed* for your requirements.

You will soon start to see that software *built for you* has long-term benefits like a healthy ROI (return on investment). Moreover, software that has not been defined clearly can lead to poor implementation. You also need to ensure that every stakeholder has a say in the software you decide to go with.

### **E. Project Management**

The famous ERP project management triangle of scope, cost, and time is infamous for several reasons. You cannot decrease or increase a factor without doing the same for other elements involved. However, since the time corner of the triangle is usually based on predictions of the future, project managers often miscalculate this aspect the most. Therefore, when you are creating a timeline for your implementation, try to be realistic when you're deciding the schedule.

If the ERP implementation project sponsors are forcing you to get done with the requirements in a month, try to talk to the upper management and give them a reality check. For almost every ERP implementation, a need for more resources is common. But it is also important to remember that getting more resources will not necessarily solve your problem.

There is also a good chance that you'll have several team members working on the integration and design documents, but only a few of them will get approved. To make your designers and reviewers consistent, stick to a standard template. This will remove all adaptability complications, and reviews will be done a lot quicker.

### **F. Project Timeline**

Even though an implementation accelerator and the best practices of the industry can help you through the process, there are no doubts that every organization is different. Because of this, every software implementation is different, and certain aspects of the process can require extra time. Several ERP vendors often claim that a system can be deployed in a month, but the answer to this question depends heavily on the kind of business processes you have.

On average, most companies take approximately 21 months. Several vendors also tell their clients not to worry about a business process because everything will be solved once the implementation process is complete. But since an ERP software is built to cater to an entire organization, defining unique processes can take considerable effort.

So, before you implement the software and try to mold it according to your requirements, try to change your business processes instead. This will reduce the need for extensive customization, which will minimize time and reduce costs drastically.

### **G. Team Composition and Skill Sets Required**

Hiring an ERP consultant for the implementation process is your best bet. These individuals have the required knowledge needed for the process and can get the ERP software running up in no time. A functional consultant has strategic thinking that can underpin the ERP migration. They can also provide you insight into the workflow processes of departments like human resources, sales and marketing, accounting, and production management.

A technical consultant is responsible for the tasks required to implement an ERP system. They handle the installation, integration, programming, and essential customizations an organization may require. They can also create automation

tools that employees need to do their job. The skills you will need for the implementation will also depend on the *kind* of implementation you are going with.

#### **H. Prioritize Core Business Processes**

Before a business starts implementing an enterprise resource planning system, the vital points to consider (time, cost, and scope) have already been decided. Since time and cost can be easily quantified during implementation, the scope can be hard to define. It is because of this ambiguity that businesses tend to focus on core business processes first.

The first two processes that every ERP system should focus on are sales and finance. Since sales realistically create a business's balance sheet, it is vital to consider the financial freedom you have when you are implementing expensive software. A drastic drop in sales during an important time in the implementation process can mean businesses might have to hold the decision of getting software if market demand has fallen. Because of this reason, monitoring and analyzing important sales figures is essential.

#### **I. User Involvement**

The emergence of enterprise resource planning software that can work from the cloud has shaken up the industry in many ways. But one of the less-discussed consequences of an ERP implementation is the importance of user involvement when the software is being implemented. From an employee's perspective, they can feel that their control over the system is diminished or weakened when a system has been implemented.

They might feel that everything they know is changing, and they are becoming unfamiliar with the new processes the upper management is introducing. This can demoralize employees and make them lose motivation for their job. Therefore, user involvement is one of the most important critical success factors of ERP implementation. Higher engagement levels can lead to stronger group interactions.

#### **J. Testing Environment and Testing Plan**

The testing environment of an optimized ERP solution can save data from being corrupted when it is being migrated or implemented to design a specific use-case solution. Businesses can also cut costs and delay the potential issues that arise during the process. The testing environment and testing plan are where organizations run testing procedures for new applications for the ERP module. While this process alone can add to the cost during the initial implementation phase, it can lead to long-term savings for the organization in the long run. Not only are businesses able to save themselves from unnecessary costs, but they can also avoid unpredictable circumstances.

This part of the process can be *vital* for large businesses, startups, and financial institutions. Once the implementation has been completed and the software is operational, do not be in a rush to get rid of the testing environment! It can again be used in the future for an upgrade in your current ERP software.

#### **K. User Acceptance**

As we stated earlier, more than half of all implementation procedures fail. One of the most prominent reasons ironically has nothing to do with the ERP software itself. It is essential for the success of every enterprise resource planning software that appropriate user acceptance test methodologies are applied before the software goes live. The end-user or the client conducts this type of testing to ensure that the ERP software being implemented is usable in the environment it is being implemented in. This is because even if the software developer can create a completely customized solution for your business, they will not be the end-user.

When an employee uses the software with a different perspective, they identify operational errors and fix several ERP systems processes. An employee's opinion is important because, unlike the upper management and development team, the end-user understands the expected outcomes. It is also important to note that whether a business decides to go with User Acceptance Testing (UAT) or not, it does happen eventually. Flaws are picked up one way or the other, and then further customization is required.

#### **L. Training**

There are several ways employees can be trained on a new enterprise resource planning software. One of the most popular methods is the instructor-led training method because it has proven to be the most effective. That is because this method gets employees to leave their job and focus on enhancing their skills. The employees learning with this method feel a bit more comfortable since they can ask questions, and learning is more of a collaborative experience rather than guesswork. But with that said, this way of training your employees cannot be effective if you're dealing with employees with diverse temperaments. In this circumstance, instructor-led training can become difficult and *expensive*. This is important to note since training costs is another reason why ERP implementations fail.

Another way employees can learn is by going through the manuals of the software themselves. A method like this can be cost-effective if the material provided by the software developer discusses the software in depth. But if your employees have little to no experience with ERP systems, even the most detailed instructor manuals will not get the job done.

#### **M. Employee Motivation and Documentation**

When people receive motivation and appreciation every time they learn a new skill, they feel a lot more engaged to be a part of that activity. Because of this reason, several business owners use gamification to motivate their employees when an ERP system is being implemented. The more enjoyable an ERP implementation experience is, the faster the employees will become comfortable around the software.

On average, a video gamer typically spends an hour or two playing video games. Many of these involve co-operation and teamwork. In the same way, social games are good for

corporations as well since recognition and competition can motivate employees to do better. Likewise, change agents play a huge role in motivating employees to use the software, too. Change agents are people within the organization who act as catalysts for change management activities. They are the bridge between the technical team and the end-users. They make sure that everyone on the team is engaged in the software, and they do this by gamification.

#### **N. Change Management**

Every department in your organization will have employees who are opposed to change, even if they often change their working habits. This usually happens when employees start to feel that their job is under threat. It is critical to meet the complaints of these employees help them understand the benefits of the ERP implementation procedure.

Additionally, it is equally important to *communicate the change* before it takes place. Try to explain to your employees and the stakeholders how the new and updated ERP system will bring improvements to current business processes and make employees' jobs easier. Try a Q&A session or a workshop for team members. Additionally, an IT manager could liaise between the ERP implementation team and your staff.

A change agent's help could save your company from detrimental problems too. As the name might suggest, this person will *promote* change in your company. They will give the company frequent feedback on how the software is performing and encourage employees to do things the *new* way. But it is essential that the change agent understands the culture of the organization and has good people skills.

#### **O. Go Live Support**

The go-live phase is important when the ERP software has gone live. Even if the software users are not proactive, we recommend measuring the effectiveness of the software right away. The IT department of a company might start to find problems with the software even before the employees even though the system might have passed several tests before it went live, handling live data and several users at one point will be a new test altogether.

It is also no secret that your employees will not have a lot of time to go through each manual you present to them. This will reduce their productivity, and it will take months until you can make full use of the ERP system's complete potential. To ensure everyone understands what is going on, try to provide an on-demand guide who can guide your employees through the complexities of the software. It is also worth considering that costly errors will occur while your employees are waiting for the solution to a problem.

Your support team will work tirelessly around the clock to ensure these errors do not occur, but sometimes they will not be fast enough. When your employees are unable to find answers, they will try to solve the problems they face themselves, and that is something you do not want! A minor slip can result in a business's meltdown. Because of this, you

must have the proper tools in place to troubleshoot any problem as soon as it occurs.

#### **P. Retaining Employees**

It is no secret that your employees can tend to feel insignificant when an ERP system goes live. Because they have reduced control over business operations, they tend to think that their input isn't valuable and that they're only people operating software. Everything your employees once knew about operational activities has changed, resulting in a lack of enthusiasm for the work they do.

This is where business owners need to take control. One of the most important factors of making an ERP implementation successful is making sure your employees are comfortable using it, which results in successful ERP sustainment. Employee engagement matters at this point, and you need to make sure that employee connections are stronger than ever. Employee retention is a common problem that arises when an ERP system is implemented.

When employees are disconnected from their work, they often tend to show distrust in their leadership. If your company has an employee who is not too enthusiastic about the ERP system you're implementing, the software's overall performance can hinder.

## **II. CONCLUSIONS**

ERP implementation is a process that can make life tough for many organizations. Implementing great software only to find out that your staff cannot understand it can be disappointing. Take your time with the process and make sure your employees on board. Correct implementation can hold several advantages for your business.

ERP sustainment depends on an agile transition to ERP software. Even though this process transforms the working of your organization and can be time-consuming – the benefits, in the long run, are worth it. But it is also worth remembering that successful ERP sustainment depends on a thorough and *elaborate* implementation. Business owners also have to keep in mind that with time the needs of the people of the organization change, and customer demands change, too.

The software you are choosing to implement must be adaptable and *flexible* to change. This way, ERP sustainment is smooth sailing.

Implementing large-scale software such as an ERP system has a massive impact on the functions and operations of the organization. With that said, continuous improvement and having an adaptive mindset is *necessary*. After everything has been said and done, the ERP software provider and the end-user must know the software on equal levels. Because as the end-users continue using the software for an indefinite period of time, they will need additional support. Users will also have to recommend solutions for potential pitfalls in the system.

In conclusion, the ERP system you implement is only as good as the team using it. Stay wary of the critical success factors, and the process will be swift!

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