FRACTION ERP

ERP IMPLEMENTATION GUIDE

A quick guide for first time users of ERP.

Learn about vendor selection, deployment strategy and mastering your ERP system.

Contents

Introduction

Welcome and thank you for downloading this guide.

At Fraction ERP, we know that choosing and implementing an ERP system can be expensive, unnecessarily complicated and out right frustrating.

We also recognise that most businesses will only go through this journey a handful of times. This guide is to help you through it, especially if you are new to this.

The structure of this guide will take you through the following topics:

- Selecting a project lead
- Selection of a system
- Deployment
- Management considerations
- Mastering your system

Implementing a suitable ERP system for your business can achieve great results and be transformative for your business performance.

We hope that you find this guide to be useful and timely,

Giles, Patrick and Junzi

Fraction ERP Limited

About the author

Giles Johnston is an experienced manufacturing consultant. He specialises in optimising ERP systems and improving on time delivery performance.

Giles' experience in this area comes from the real world. He has deployed and troubleshooted many ERP systems during his employed life. He has consulted with a wide range of businesses that each had their own ERP system. Each system may have been different, but their fundamentals were the same.

As a Chartered Engineer, Giles has worked in many roles. Production Controller, Manufacturing Engineer, Project Manager, Operations Manager and as a Senior Consultant for a prestigious university.

This guide is a distillation of some of his practical experience around ERP systems.

Selection

Who's going to run the project?

Before looking at the ERP systems in the market, it is important for a company to identify the right people to make this decision. It should ideally be someone or a group of people within the company with a good grasp of how the company currently works, some instinct of where the problems lie and a good ability to see opportunities for change and improvement along the way. Having a team or person in charge of the project and keeping a broad view throughout is important in making your ERP deployment a success.

Mapping out your needs

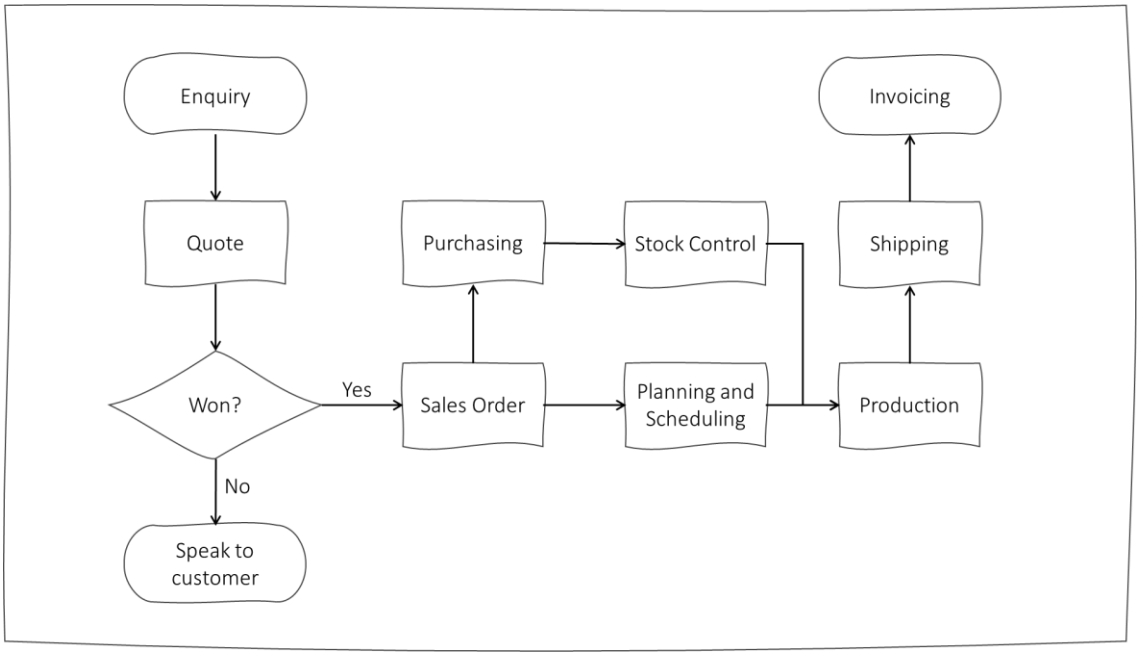
Before selecting an ERP system for your business, it is important to be clear about what you need it to do. Most ERP systems have similar functionality and differ by their many add-ons and "nice to have" features. Effective system selection often hinges around being clear about what will make a difference to your operation.

It is important at the start of considering ERP systems to sit down and consider these questions:

1. Why do we need to implement an ERP system? And therefore…
2. What do we want to get out of it?
3. How will we measure the benefits in say 6 months or 1 year?

By asking these questions, you will be able to draw out the different features of an ERP system that mean the most. For example, if you need to know the status of production, shop floor tracking tools will be important. If you operate a buying and selling operation, the purchasing and despatch functions will be essential.

Alongside the key features that you want to focus on, it is useful to have a process map. The map doesn't have to be anything fancy. Start with a simple flowchart from a customer enquiry to invoicing. It will be useful to refer to this once you shortlist your ERP system options.



An example of a simple flowchart

As a side note here, it is worth the time to challenge yourselves when you map out your 'order fulfilment' process:

- Can you make the process simpler?
- Can you make the process faster?
- Can you reduce the effort required by the process?

If you can determine some improvements to your process, you will have two things.

1. You will have an improvement plan to follow later on.

2. Clarification of what an ERP system needs to do.

Don’t get hung up on the process map and finding an ERP system that matches your workflow. You will most likely have to adapt some areas to the ERP system and some change is to be expected. Balancing the optimal business process and the ERP system is a common trade off. Don't compromise too much, but also don't wait for the perfect fit. It should be normal to expect your workflow to simplify when adopting an integrated ERP system.

Another consideration to make is around authorisations.

- Do you need to manage specific authorisations within your business?
- Do you need to authorise the purchasing of certain order values?
- Do you need to authorise sales orders when credit limits take effect?
- Do you need to control the changes to the Bill of Materials (BOMs)?

Consider these privileges to identify which systems will be the best fit.

At this point you should be able to draw up an initial list of requirements based on:

- Your key business transactions.
- Your desired future state for your order fulfilment process.
- Your authorisation requirements.

Research

When looking for an ERP system, knowing roughly what you are looking for is a big help. The simplest approach is to align ERP vendors based on the following factors:

- What size of company are they aiming their software at?
- What price range does their software fall into?
- Are there any specialisms their software addresses?
- Is their software deployed on your local servers, or via the web?
- What is their implementation approach? Is the available information and training enough for your team?

If you can answer the above questions you will be able to shortlist your potential vendors. You can also use these questions to help you score / rank the vendors.

Selection of a system can, in many ways, be systematic and rational if you follow the above.

Demos / trials

All ERP systems look good on paper (or, Internet).

If you are able to try a few out, and see what works, your evaluation will be a lot more effective. Trialling the software will give you a good idea about:

- How the software flows.
- Ease of accessing the various modules.
- Speed of use.
- The depth of training required.

It is worth mentioning here that one of the benefits of cloud hosted systems are the free trials. On premise server installed ERP systems are usually unable to offer a free trial and you may be limited to online or onsite demonstrations.

Budget

ERP systems come in all shapes and sizes. They come with a variety of price tags too.

Be realistic about where your business is and define a budget that is in proportion.

The ERP system you select should offer value for money and pass a cost / benefit analysis. That is, you should expect benefits that outweigh the costs of the system.

Evaluation

When you select your ERP system of choice, how do you go about doing it?

The simplest question to ask is:

"What is closest to what you want?"

If you are struggling to decide, go back to your key needs and score each option against your key needs. You may need to devise a simple scoring system. Weighting key elements may help to increase the effectiveness of your assessment. Elements to weight may include fit with needs and price.

Once you have added up your scores, the biggest score wins!

If it's really too close to call, try calling the vendors and have a chat, explain you are uncertain and listen to the responses - try to get a feel for the style or approach of the company and which one seems to fit your expectations.

Onboarding & Support

Before a final decision is made, learn about the onboarding process and what support is available. Remember the sales pitch was just that - a sales pitch and once the sale is booked you may be dealing with an entirely different customer support team. Dig down a bit, ask some questions and find out how you will get support once you have signed up.

End of Life

One day your business needs may outgrow your chosen ERP system and you will need to change it.

Ask your preferred supplier how data transfers out of their system or how to maintain some level of access to it This will help you plan for the future.

Deployment

The successful deployment of an ERP system is a little more complex than logging into a new system.

Implementation team

Who you have on your team will make a real difference with your implementation. You know how to select a team, but the following points are worth considering:

- Do they understand your business processes?
- Do they know the admin tasks within your business?
- Do they have time to help get the system up and running?
- Are they interested in software and systems, like an ERP system?
- Are they methodical and can work their way through issues (that will, of course, crop up)?

A textbook knowledge of ERP is useful, but availability and the right attitude are often worth more.

For your implementation plan, consider the following points. Once a roughed-out plan exists, you should be able to estimate the time scale.

Being ready to 'go'!

Defining a 'success criteria' will help you determine when to sign off the implementation. Start at the end!

Starting at the end is a good place to begin your planning. Many software projects are 'shoved' into an organisation rather than delivered with skill. Creating a checklist to sign off implementation will keep you focused on your goals.

Create your checklist by first reviewing your ERP selection criteria. Amongst your criteria will be some needs and wants. Which ones do you want to see before you can say that the project is complete?

Consider the following points;

- Will all staff be able to use the system?
- Will the housekeeping / maintenance tasks be clear?
- How will the leadership team get their information?

Pull together a list of items that will signal your project complete. You can use this list at the end of the project, to confirm that it really is the end! It is worth noting that ERP implementation will be a learning process. This learning will include finding out about different areas of the business, how things are done and the various personalities within any organisation. Things may change during this period. Don't worry about process changes or things not going as you has expected, just keep the direction of travel focused on the goals.

Aligning your processes with your ERP system

Although each ERP system will have a similar flow, their processes may differ to yours. To get the most out of your system, adopting the ERP system's processes is sensible.

When you carried out the mapping of your needs you may have identified some improvements such as reducing duplicate data entry or, making information available where it is needed the most. Use these improvements, along with the ERP system's processes to list out the changes you need to make.

Aligning your business processes with the ERP system makes for an easier implementation.

Part numbering systems / naming conventions

Over the years I have seen many businesses that don't have a formalised part numbering system. Their part numbers do not mean anything (other than the sequence of their creation) to the users.

A simple part numbering system often referred to as a 'composite' numbering system, can allow everyone in the organisation to identify parts.

For example, a tubing component:

Part number: 38AA - 2002

This is broken down as follows:

38 - Material type (polypropylene)

AA - Corrugated

20 - Internal diameter

02 - Wall thickness

If I presented you with a part numbered 38AA - 2502, you should be able to fathom what it is.

You can create numbering systems based on a range of factors. Families of parts, material types, shapes and features are a good start. The approach will depend on what is meaningful to your business. Do not ignore this topic just to save some time upfront. Good part numbering systems can save time and confusion later on.

Initial training / familiarisation

When you 'go live' with your ERP system you need your staff trained. The simplest way to get started with this is to let them practice in a demo version of your system.

Whilst they won't become masters overnight, it will help with the more in depth setting up and training later on.

Most systems have a logic to the way they work. General navigation, printing documents, using filters and how to create and edit records will be needed by all users. Once they have this knowledge the rest of the training will be specific to their role or areas of responsibility.

Initial training should replicate normal day-to-day tasks. The sales team needs to input quotes and sales orders. The buyers need to raise purchase orders. The production team needs to schedule and complete work orders.

Give your team time to orientate themselves with the system and consider a test run with all the users participating. A test run of an order from start to finish will make it clear to everyone how processes and data are linked in the ERP system.

Defining your capacity approach and setting up workcentres

A workcentre is a resource or group of resources in your production area such as machinery, equipment or your employees. Manufacturing operations are performed by these resources. Depending on the type of resource, each can only be used for so many hours per day or week. This determines the capacity of your operation.

How will you set up your workcentres in your ERP system?

Your decision will make a big difference to your scheduling approach.

The most typical setups are:

- by machine (or group of),

- by cell,
- by operator (or group of).

Consider how many machines or employees are identical or at least very similar in the process they perform and if they could be grouped together as one resource.

If the groups are large and have diverse machines then you run the risk of scheduling clashes. Having the groups too small runs the risk of a complex schedule that is difficult to keep on track. Whilst there is no right or wrong, try to avoid the extremes.

A consideration that is often overlooked is utilisation. This should be factored into your capacity plans. It is likely that you will have production losses such as material handling, machine downtime, employee breaks, housekeeping etc... Each minute of production time will not always be productive. Considering these losses will make your scheduling and planning more realistic.

Configuring your ERP options

Behind most ERP systems are options to configure how the software behaves. This is especially true when it comes to scheduling rules.

Some systems are more complex than others. The point of this section is to prompt you. You need to find where the options are and understand the implications of the choices.

If you don't get this right, you may find your system behaving in a peculiar manner. Let's try to avoid this!

Setting up your initial BOMs and routes

Finally, at this point we can now consider BOMs (Bill of Materials) and routes.

A consideration that I need to draw your attention to is single versus multi levels BOMs. You will need to strike a balance between the two. Single level BOMs can be quicker to produce at the outset and need less planning. Multi-level BOMs can add a degree of complexity. However, in the longer term they represent better clarity, control and simplicity for many production items.

Once you have your materials structured into their BOMs, you can add the routing. The routing is a sequence of manufacturing operations required to produce the product. In a multi-level BOM this would complete a stage of production.

Having realistic setup and cycle times are critical. If you don't have a way to calculate accurate times, then use the times you used to quote the product as a guide. If your ERP system can collect data from the shopfloor, your ERP system should be able to give you actual cycle times, which you can use this to refine your routing information going forward.

If the actual cycles are well over the planned times, use this as an improvement opportunity.

Some systems allow you to attach drawings to the BOM. Take care with this if the system does not offer revision control, many systems don't. The updating activity needs to link to your engineering controls if this is the case.

Testing data/Trial Run

Before you go live with your ERP system it makes sense to run a test order.

NASA launches their rockets and shuttles with a series of checks, we should be no different.

In the ideal world, every physical business process should replicate within your system. Draw up a checklist of what needs to be working well in order to launch the system.

Don't skimp on this part of your deployment. This leads nicely to the next point.

Concerns and resolution

As your team progresses through the testing phase issues will arise. Raise each concern as it appears and keep an organised list. Appoint a member of the team to own the list and find solutions to the concerns.

Some items will be training related. Some items will link to the options you have selected. Some options will arise from your existing business processes.

This exercise aims to align your team and your processes with your ERP system. The closer they become, the easier your life will be later!

During this time, you should learn more about the system and adapt as required. Your team will most likely gain confidence about the system and be ready for the go live date.

Mass input / switchover

The decision on how to switch from one system to another is always an interesting debate.

On one hand you could go for the big bang approach. You load up your system with all the data and go for it! If you have carried out the necessary testing then this might not be a big risk.

The alternative approach is to look for an incremental roll out. In some cases you can move your processes across from your previous system in stages. Quotes, then sales order processing, then ordering, then shipping, then scheduling etc...

Your decision will depend on how workable the incremental approach is. The point here is that you need to think about it and make a decision.

Signing off the deployment

A powerful way to complete your ERP deployment is through a formal sign off process. Agreeing the sign off requirements at the outset is a good way to focus the team on what they need to achieve.

Use the checklist you produced when considering the section titled ‘Being ready to ‘go’!’. Convert this into a document where you can add signatures. Making the document formal changes people’s perception of this activity. It is important and getting it right will make a big difference to the outcome.

I have seen many ERP implementations that have claimed completion too early. The implementation is not completed because the software has been installed!

Timescales

No plan would be complete without a timing element. This section of the guide might reiterate the 'blinding obvious' but it needs to be here.

Calculating the time required for the key tasks in your plan is usually better than guessing. From the initial testing of the ERP system you should be able to at least estimate how long the tasks will take. I recommend that you define a time for each task, rather than use a vague period of time.

Adding in contingency will depend on your current needs. If there is a deadline (such as a financial period) then working backwards from that date makes sense. Otherwise, try your best to be realistic with the times for each element of your plan.

Scheduling time to carry out the actions on your plan is something that you will need to consider. A regular drumbeat in people's diaries, to work together on this project, can work well. A real risk here is that nothing gets worked on until the last minute. You want to avoid rushing around and cramming the ERP system into your business.

It is worth mentioning Parkinson's Law at this point. "Work expands to fill the time available" is a good summary of this law. In practical terms, this means scheduling your actions for earlier in the working day. After you have completed some actions you should then still be able to work on your other tasks. Your team will make progress in a steady fashion.

Note - Parkinson's Law assumes that you will remove unnecessary items from the rest of your working day! This is how you can appear to be able to fit more in.

Let's also consider the learning curve your team will experience. As the team gets more familiar with the ERP system and the project, a natural efficiency will appear. I would plan without this gain and use this as a natural accelerator to either take the pressure off the team or deliver the implementation sooner.

Pulling your plan together

Now that you have thought about your team and know how you want to set up your system, it is time for a plan.

Having a formal plan is a must here. Whether this is a detailed plan, or a high-level overview, it is an essential communication tool. Share the plan with your team and use it as a centrepiece at your team meetings.

I recommend that you schedule a weekly team meeting to review the action plan. Push the team to review the plan before they attend the meeting to minimise wasted time. I also recommend that you consider some form of visual management to help manage the plan.

Using a RAG (Red, Amber, Green) approach is both practical and effective. You can apply this colour scheme as follows:

- Red items - any task that will miss its schedule, even if supported with extra resources.
- Amber items - any task that is slipping behind schedule but can catch up if supported / focused upon.
- Green items - on track and progress is of no concern.

As you work through your plan you assign each task a colour based on the above definition. Any red or amber points can then be discussed to determine how you get back on track.

With clear criteria for the effective sign off of the system, you will walk this path with confidence.

Managing an ERP system

Management of an ERP system is something that many business leaders ignore. Their approach of ‘switch it on and watch it work its magic’ rarely delivers results in real life.

This section of the guide looks at some of the key aspects of running an ERP system. The first job is to make it work. The second job is to help you to become more productive. Your business case needs to become a reality.

Sunrise meetings

A Sunrise meeting is an example of good process management. This approach is not only for ERP systems, in case you want to extend the idea.

The intention of this meeting is a daily ‘touch base’ for your key processes. The meeting should be short and, ideally, take place near the start of the working day.

To create an agenda for your Sunrise meeting, define what you want to see for each key process.

Example agenda questions could include:

- Have all reviewed sales orders been loaded into the system?
- Are all purchase orders raised?
- Did all of yesterday's material deliveries arrive on time?
- Did yesterday's work orders (to launch), get launched?
- Are all work orders on track?
- Did yesterday's dispatches take place?
- Did all of yesterday's actions get completed?
- Is system housekeeping up to date?

A simple option for most businesses is to tie the questions into an existing meeting.

The questions should only produce "yes" or "no" answers. Only get into the details for the exceptions. To make this slick, your team will need to be clear about what they are responsible for. They will also need to think about the questions before the meeting. If they need to discuss the exceptions, information will need to be at their fingertips.

Once the day-to-day issues of using a new ERP system are resolved, some of these questions move to an ERP dashboard, so everyone with access to the ERP system can log in a check for exceptions.

A good Sunrise meeting can improve on time delivery and team performance.

Housekeeping

The last point in the example Sunrise meeting agenda points was housekeeping. Housekeeping is critical to keeping your data clean, tidy and usable.

When data is not maintained, when it is incomplete, effective decision making can't take place. In this situation this is when workarounds start to happen. Spreadsheets start to (re)appear. The ERP system loses integrity.

List out the key areas of your ERP system. Identify for each dataset the checks and corrections you may want to establish. Develop a routine and assign responsibilities.

That's all you need to put in place for housekeeping. Keeping the system healthy is no different to servicing a car or tidying a filing system. A healthy system has longevity and is more effective.

Planning horizons

Many businesses run their businesses with one gear; the day ahead (or week ahead). Stepping back and seeing potential bumps in the road is a good management practice.

Looking ahead, not just the next few days, what could affect the working day?

- Does planned maintenance need to occur?
- Are you about to enter a holiday period?
- Do you have the right level of resources?
- Is work ramping up (or down)?

Asking questions like these allows you to throttle your business activities as appropriate. This results in your working days becoming smoother through planning and preparation.

Scheduling periodic reviews

Your ERP system's data will not stay still. Whilst this is obvious for sales orders and work orders etc... this is often overlooked for other areas.

You will develop better ways of working. The improved cycle times will need to be reflected within your manufacturing routes.

You will change your equipment and machinery. You will change staffing levels. In both cases, your work centre resources will need to reflect reality.

Continuous improvement activities could improve team / machine utilisation. Again, you will need to reflect this in your system for maximum effectiveness.

This review is another form of housekeeping. Whereas housekeeping tasks often take place on a daily / weekly basis. This kind of review might be quarterly, unless a major change is happening.

An accurate system is an effective system.

Disciplines

The above points will not work if discipline is not present. Doing the right things, whether you want to or not, is a good summary of discipline.

Running an effective ERP system is not 'exciting' for most people. We need to overcome this by developing the right disciplines. ERP is a tool, a tool that needs maintaining.

Developing a routine for your business is a good way to lock in these working practices. Defining what needs to happen, how often and who is responsible is the crux of it.

Housekeeping tasks are an obvious candidate. The Sunrise meeting is a natural fit, as are the capacity reviews.

You might want to carry out the occasional audit. Checking that working practices are being maintained.

Keeping an ERP system healthy is cost effective in the long run. Better decision making and simpler management is the result.

Mastery

Owning an ERP system does not change your business' performance overnight. It is the same as becoming the owner of a Formula 1 car. It doesn't guarantee that you will have the skills of Lewis Hamilton.

Mastering the running of an ERP system doesn't have to take a huge amount of time or effort. The following points should help you reach mastery sooner.

Standard Operating Procedures (SOPs)

Often overlooked, SOPs can make life a lot easier in the medium and longer term for your business. Many businesses don't capture this information because:

1. It is another job to do, on top of everything else.
2. They perceive that everyone knows what to do, at the point of implementation.

Point 1 is a fact of life. Point 2 is usually incorrect.

As you pass the implementation phase, learning about your ERP system continues. The team will gain new knowledge as they progress with the system. They will encounter issues not experienced during the testing phase.

Agreeing on what the best way to use the system, for key business processes, is the start point. Once you have this information, write it down. If you can include photos / screenshots, your SOPs will be even better.

It is amazing how quickly people can forget (or disagree with what was agreed!). Formalise your knowledge into written documents. Not only is this a useful reference but it will help with the following points.

Skills matrix

A skills matrix is a useful tool full stop. I find that they are often underused by most businesses. A simple skills matrix to cover ERP operations can help with the mastery of the system.

Linking each area of the skill matrix to a SOP makes it even more powerful. Instead of a vague area to score someone against, you now have an objective yardstick.

You can use the skills matrix for both training and ensuring competence. If you tie it into your staff appraisal process, then you have a powerful method to achieve mastery.

An example of a skills matrix with the SOPs linked is shown below.

	Area	Contracts	Purchasing	Scheduling	Despatch
	SOP	SOP-101	SOP-102	SOP-201	SOP-301
Name	Role				
Giles	Prod Mgr	0	1	3	2
Patrick	Design Mgr	3	2	2	1
Junzi	Stores Mgr	0	2	1	3

0 = untrained, 1 = can work supervised, 2 = can work unsupervised, 3 = can train others

Knowing what skill levels different roles should reach is a good idea too. This will help with defining training gaps.

Induction process

Now that you have SOPs and a skills matrix, you have a great way to induct new staff. It is imperative that your new staff know how to use your ERP system in the correct way.

Structuring the induction can shorten the time required for a new staff member to be productive. Let's try to not blow them up on day one though!

Building on the above, you can:

- Provide a sequence of processes for them to learn.
- Supply SOPs to provide the basic knowledge they will need.
- Offer a 'buddy' to keep them on the right tracks for the first couple of months.
- Use the skills matrix to track progress during their probation period.

People leaving a business often take a good chunk of knowledge away in their heads. By doing the above you can minimise the effect this will have on your business.

KPIs and continuous improvement

KPIs (Key Performance Indicators) are there to drive performance. Many businesses only measure outcomes and this makes it harder to change the results. Measuring key points in your processes allows you to change your approach. This can help you to achieve a better outcome. A combination of the two approaches is a good management strategy.

The basic approach that I would recommend is:

1. Identify the key points in your business process.
2. Agree on a metric for each point.
3. Set targets / thresholds, so you know when to act.
4. When you need to act, determine what needs to change with your usage of your ERP system.
5. Trial, test and refine the change.
6. Document the changes in your SOPs.

7. Train the team.
8. Repeat from point 4.

Use the data from your ERP system to find areas for improvement. Initial points to consider are:

- On time start of production.
- Cycle time variance.
- Late purchase order deliveries.
- Production lead times.
- Capacity availability.
- Sales order process lead time
- Stock turns.

I'm sure that you can think of other items you could add to this list. Keep it simple at the outset. Prioritise what you measure and monitor and drive your improvements accordingly.

The above points, when used together can help you take your business from ERP novice to ERP master.

Closing thoughts

Selecting and implementing an ERP system doesn't have to be an ordeal. It is my hope that this guide has given you some ideas on how to approach your ERP project to get better results.

If you can get clear on the key features you need, finding an ERP partner will become easier.

If you can apply some logic to your ERP setup, training and deployment activities are not arduous.

If you can apply process management to your day-to-day operations, ERP can be a help (not a hindrance).

If you can continue your ERP journey, the system will become an ally and not a burden.

I have seen many businesses deploy an ERP system because everyone else has one. They don't consider the points I have raised in this guide and the system consumes resources. It is unclear if it adds more value than it costs. We don't want that position for you.

ERP systems, managed in an effective manner, speeds up business operations. They support your Lean journey and they reduce the amount of admin you need to undertake. If you ever feel like this is not the case then I urge you to revisit the points raised in this guide.

That's enough from me. I wish you all the best on your journey.

If Fraction ERP can be of any help in the future, please let us know!

About Fraction ERP

Fraction ERP is a straightforward and low-cost cloud ERP system.

We developed it to avoid the complexity and complication users often experience. Fraction is a remedy for modern ERP woes.

The system includes all the main functions that you would expect from an ERP system:

- Part control, stock management and Bills of Materials
- Quotes and sales orders
- Work orders
- Purchasing and goods received
- Scheduling and shop floor tracking tools
- Shop floor data collection
- Capacity planning / management
- Invoicing

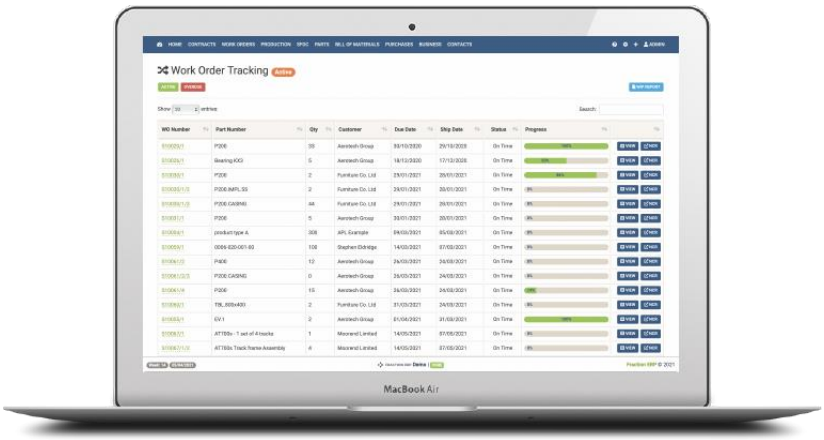
Fraction ERP integrates with cloud-based finance packages, providing a complete system.

Mobile devices, tablets and any browser can access our ERP system. Whilst we advocate a work-life balance, you can check on production from your kitchen table at 3am with a smartphone!

We are continuously developing Fraction ERP with new features and improving the user experience. Full onboarding resources are available, including step by step guides and video walkthroughs on our website.

There are no setup fees. As Fraction ERP is a cloud system, the only fees you pay are the monthly subscription. Plus, we include unlimited shop floor user accounts with all subscriptions.

When you're ready to take a further look, visit www.fractionerp.com.



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