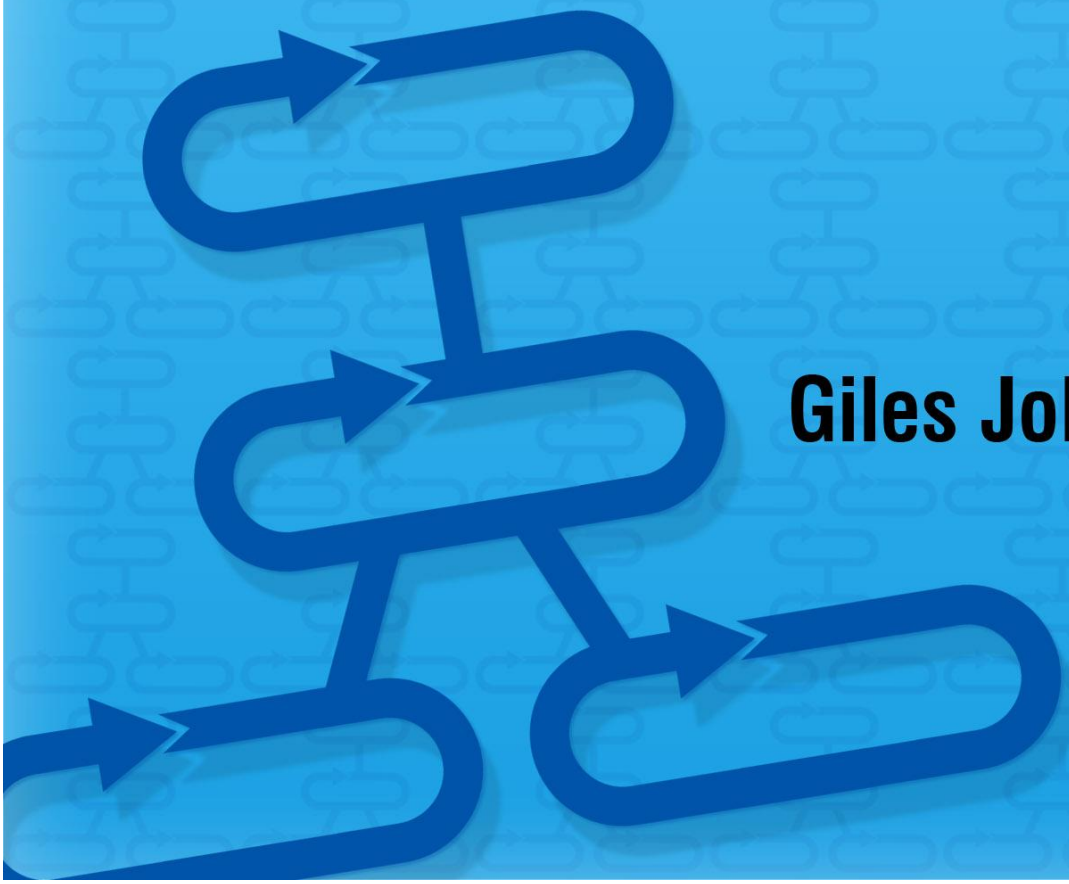
Making MRP Work

A Practical Guide to Improve Your System's Performance



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Welcome

If you have stopped to read this book then I guess you are having some fun and games with your MRP / ERP system. For ease in this guide I will use the terms MRP (Materials Requirements Planning), MRP II (Manufacturing Resources Planning) and ERP (Enterprise Resources Planning) as being interchangeable. Although they are not precisely the same things, this book is fundamentally going to look at how you get the core elements of an MRP system working properly. These elements are common in most modern systems, whether the vendor describes it as MRP / MRPII / ERP. The fundamental design of these systems is the same under the bonnet.

Are you struggling with any of the following?

- Bloated order books and late deliveries
- Materials not being ordered on time
- Being stuck between 'going Lean' and using MRP
- Spreadsheets being used instead of the system
- A general lack of understanding about how the system works
- Conflict with other departments, leading to poor information
- Fire fighting due to errors made by following the current system
- Confusion, irritation and a feeling of running around like 'headless chickens'

The above list is made up of comments I hear from clients. This book aims to address these issues in a logical approach. Each section of the book builds upon the previous section until you have created your own improvement plan to take your business forward.

Most systems are generic once you get under the facade of the interfaces. They all run from a set of rules and this book is going to look at some of the common issues I see businesses struggling with when it comes to running MRP systems effectively.

This book doesn't aim to be an exhaustive discourse on the subject, more of a practical set of tools, a Pareto of issues if you like.

I spend a fair bit of my working life helping businesses to find out why they aren't getting the results they want from their MRP system and one common factor I have noticed is that the system doesn't get fully configured by the time implementation goes live. When that happens, whoosh, we're off in to the thick of busy working and we never go back to sort it out. Roll forward a year or two and no one can remember what needs to be configured, or how. Even worse, poor working habits may have sunk in and workarounds may have emerged as the normal way of working. Add in the factor of people moving on from their jobs, bringing with it degradation in overall knowledge about your MRP system, and you end up in a downward spiral.

I tend to think of MRP system user's attitude to their system as being a bit like when people are sceptical of Sat Nav systems in their cars. We know that the Sat Nav has the map. We know that it has been programmed with our information. We know that it has got us to our destination in the past, but we are still unsure of the route it offers us, and so we take 'educated' deviations along the course only to find out that the Sat Nav knew a really good route all along. Admittedly some of my early experiences with Sat Navs were sketchy, but largely my problems have been with entering the wrong post code into the destination field of the Sat Nav. There is a parallel with MRP systems. We don't configure them properly (whether from a system point of view or from a component level) and then spend our lives fighting the information they give back to us.

I'm not suggesting that we configure the system and then blindly accept the information as the gospel. I think we should still review the information and consider its validity periodically, but what I hope you get out of this book is some ideas or answers as to how you can resolve the current issues with your MRP system and then find a better way of working with it. Instead of wrestling with the information and deciding to do something different I hope that you take the opportunity to stop, reflect and then change the rules in your system so that it gives you information in the way that you want it, in a way that helps your business, without additional interpretation.

This book exists because I wanted there to be a practical guide that was short enough to be read and useful enough to help, which could make a difference to MRP systems and their performance within the business. There are many really good, world class, examples of MRP systems in use and there are myriads more of ones

that aren't so good. Some of the poorer implementations reflect the text of the MRP books written in the late 1970s and 1980s about MRP introduction. The organisational problems are the same, the training issues are the same, the lack of proper use is the same, and it goes on. At the time of writing (2013), I sometimes feel like the general usage of these systems hasn't progressed to where it should be. I hope that this book will help to close out some of these gaps and we are able to gain the performance and profitability for our businesses that MRP systems should help us to achieve.

Table of Contents

This book is split into five sections.

Section Five - Action Planning

Finally, in section five, I share some of my general views about managing improvement projects and continuous improvement. These ideas can apply to any kind of continuous improvement / change management approach also.

And to wrap up the book:

Conclusion

Links and Resources

About Giles Johnston

So, if you're ready to get started, let's go.

Section One – Your Starting Point

MRP systems are a collection of parts. You have databases, interfaces, rules and information. If you peel away the skin of a system, that's pretty much all you have to play with. The interesting ingredient to add to this recipe is the people who use this system.

This section of the book looks at some of the immediate issues, and background considerations to getting the most out of your MRP system. They may seem to be preparatory and they are. In many businesses that I have attended to however, these items were not developed and so I include them at the start of this book to give you a chance to make sure that you have not missed them out also.

Although the bulk of the improvements to your system will come from the later sections, making sure that these elements are correct is an essential place to start.

How Do You Want Your Business To Run?

Knowing how you want your business to operate is the first place we must start if we want to ensure that the way that we have set up our system is going to serve our purposes. There are fundamentally three approaches to setting up an MRP system. They are Engineer To Order (ETO), Make To Order (MTO) and Make To Stock (MTS).

ETO businesses make new products each time they take an order on, unless it is a repeat order of course. Each product could include new components or use a combination of existing components to fulfil the design and this extra work at the front end will affect the lead times of the products you manufacture. Any business that makes something for the first time will experience the ETO approach but it is what you plan to do next with the products that will determine if you need to look at the approach differently.

The next approach, which leads on from the ETO approach is the Make To Order method. This is where you sell repeated items without necessarily going through the design and engineering steps that you would have done the first time you created the product. Whereas the ETO approach would look to minimise the stock levels and purchase materials on demand, the make to order approach may require better arrangements to be made with suppliers, or even consider a degree of stock holding to maintain supply lead times.

This then takes us to the final main approach, Make To Stock. The MTS approach drives the production element of your business to regulate a stock level that you have told your system to maintain. If you have certain products that you have demand for and you want to ensure the supply of these products then using a stock level (buffer) could be a viable option to help your MRP system plan your production.

As with most businesses you may need to blend the three approaches to get the results you want. For example, if you are following a mass customisation approach then base products may be stocked and then the final items are produced on a MTO basis. Certain products may be better suited to MTO and some will always be engineered upon request.

The reason for including this information at the start of the book is to make sure that you know the difference between the types as this will affect how you configure components within MRP later on. Getting the right combination of approaches is essential for your business' ability to deliver and will reduce the complexity of managing your organisation.

The final item that I would like to cover here is that of families. One of the stumbling blocks that I see on a regular basis is when businesses see every product as being different, particularly when it comes to a strong ETO environment. When each product that enters the order book is requiring some form of design work people can become despondent about the MRP approach. It can seem like there is a lot of work to do to update and maintain a system of this nature, but there is a simple way to approach this. Often products can be grouped into families. This can be based on size, machining requirements, assembly method, or whatever makes logical sense. When you are able to create groups, or families, then you can apply slightly more generic information to your MRP system. This can lead to a slight degrading to the accuracy of the system but it can also give you the speed and simplicity that makes the whole system work better overall.

The families approach has been criticised in some quarters for the inaccuracy that it can bring with it. My objective in this book is to share some ideas with you that can make your MRP system work for your business and help you to achieve the results you want. Being pragmatic about some aspects of the system configuration can bring these results quicker for the sake of a few percentage points of accuracy. If you are wondering about this small loss then I would challenge you about the current accuracy of the information that you are working with. I would rather see MRP working with a lower degree of accuracy, but with the right performance outputs. This is often better than a system that is underutilised with the business struggling along, juggling all of the requirements placed upon it.

So, confirm to yourself how you want your business to work and let's move on to the next preparatory item.

Action Step

- Decide what type of approach would serve your business best; ETO, MTO, MTS, or a combination of these.

Where Are You On Your Journey?

Implementing systems can take time. The amount of time you need is dependent on a number of factors. One of the biggest factors is where your team is in relation to their understanding and usage of systems. Some businesses try to get their teams to accelerate the implementation of systems, including MRP, because the sooner it gets implemented the sooner the benefits should be realised.

I agree with the notion of sooner is better than later, but if the pace doesn't match the education and support (let alone leadership) in the use of a system then the results may be less than stunning. It needs to be recognised that just because you are ready for the change doesn't mean that your team is. Determining where the team is and what the gap is between that position and one where the team is fully engaged and prepared to operate an MRP system is the job of a leader. Where is your team with regards to this journey?

How many systems have you had to date? Have you implemented other systems into your business but so far not witnessed the impact it should have. If this resonates with you then you are not alone. There are many businesses that have implemented new systems and instead of improving the efficiency of the business it appears to have merely increased the level of administrative staff employed by the business. Has this happened to you?

One of the telltale signs that something isn't quite working is when you see new faces appearing in a production control team, or similar support departments. Additional people who are responsible for the administrative work that was originally expected to be handled by the new system should raise the warning flag. If that is something that you recognise then it is time to ask yourself some questions about your approach to implementing systems. The later sections of this book will help you with the configuration considerations you need to undertake. The disciplines and routines that you need to develop is something that I will discuss later on. There is of course more to leading your team than this, and it is a challenge outside of the scope of this book. However, I hope that if you are responsible for leading your team through the change process then you will be able to feel more confident after reading this book.

Systems can take time to implement, and more importantly, embed. Using the ideas in this book to create your own improvement plan should seem straightforward by the time you reach the end of this book. Keeping the focus within the team to

achieve the results is always easier when you feel comfortable about what changes to make.

Have you had other systems working in your business? What was different about these systems, and what was different about the way that you approached the implementation? If you can answer these questions you will probably find some good ideas to help you improve the current standing of your MRP system. Some businesses find that the systems that worked more effectively were smaller and that they found the whole process of implementing the system easier. This made making it a part of their day to day business a far more simple and manageable process. If this is your experience then take each section of this book step by step. Using this bite size approach can make a big change project seem a lot simpler and a lot more achievable. Allow your team members to get onboard with the changes as easily as possible.

Knowing where your team is and your past history with implementing systems can help you to make better informed decisions about how you want to tackle the improvements required by your system. Like a farm, you need to plant the seeds first, then water and nurture them before you can harvest the crops. You can't jump the sequence. Implementing and embedding an effective system needs you to know your own sequence of activities and then to follow them in order. What are the steps they need to take in order to compound their learning and 'be in the right place'?

Now, let's move on to the next issue – finding where we ignore our current system.

Action Steps

- Find out how 'receptive' your team is. Where do they need to be in order to fully adopt and embed an MRP system?

- Find your past successes. What were the common factors? What can you use with your MRP system?

Workarounds And Underutilised Modules

A tell tale sign that your system isn't fully understood, or embedded, is that of workarounds. Workarounds are alternative, non-system methods that are used in the business instead of embracing the functionality of the system. Granted sometimes the system will not do exactly what you want it to do, but the risk with workarounds is that you are introducing a new set of data to your business. Another set of data means more management and potential conflicts. This does not help you simplify your business practices and improve. As mentioned in the previous section, workarounds can also increase your head count as well as providing other management issues.

A common method of creating a workaround is to dump the data from the system into a spreadsheet. The flexibility of spreadsheets makes them an obvious choice, and many people are familiar with (basic) spreadsheet commands. One of my gripes with using workarounds like a spreadsheet is that the data flow is usually one way. This means that whatever is done in the spreadsheet never makes its way back into the system. This means that the MRP system never benefits from the updated information and therefore cannot give you an output that you can work with. You become tied to the spreadsheet and build dependency on both the document itself and the person that created it. Very rarely do these workarounds get formalised and so you put your business at risk from an operations management point of view.

Another sign you can look out for is the level of unused modules in your MRP system. Most MRP systems are comprised of a series of interlinked modules (such as Sales Order Processing, Purchasing, Works Orders etc...) and when you have a specific module not being used then you will usually find that this is because there is a lack of understanding within the organisation about how it works. Quite often the module will fill the perceived gap in functionality, but perhaps it isn't understood fully and is hence ignored. Clarifying the purpose and functionality of the modules contained in your system can be a worthwhile exercise. If there are clear gaps in the utilisation of the system then there could be an opportunity to remove workarounds.

An excessive list of bespoke system reports being available can indicate a lack of understanding around the functionality of the MRP system. Most modern systems provide on screen reporting as well as standard reports to help users decipher the data contained in the system. I have seen a correlation between businesses who don't understand their systems and the volume of reports they have available. As time progresses and the acceptance of the system improve I also see the rationalisation of reports. Although this might not be the case in your business I have

seen it too many times to dismiss this ‘cause and effect’ relationship. I will revisit the issue of reports near the end of this book.

I suggest that you use the three points above (spreadsheets, unused modules and excessive reports) as a dipstick for your own business. Have a look at what is currently happening in your business and determine how much of the system is being used the way it should. Even with a good system selection procedure at the outset I still see these feral ways of working creep back into a system’s operation. Knowing where you are will help you to create a suitable action plan later on.

Action Steps

- Find the workarounds that ‘support’ your system. Work out why they exist, close the gaps in knowledge, learning etc… and eliminate them one by one.

- Look for redundancy in your MRP modules. Find out what they are for and identify opportunities to further remove workarounds or increase the functionality of your system.

Know Your Demo System

Over the years I have met many people who 'fear the system'. They fear making a mistake with the setting up of components, changing the configuration of the system or when using utilities programs contained within the system. Whereas a paper based system can hide mistakes and problems for days and weeks, your MRP system will not be as kind. An incorrectly configured part of your system will probably wreak havoc moments after you run your MRP cycle. Purchase orders and works orders can radically shift after changing small details within the setup of your system. There is a good approach, however, that you can take to prevent this 'fear' from stopping you make the most of your system.

Many businesses have access to a 'demo' system. This is often the same system but one that points to a different set of data, allowing you to play with the information without consequence. Making the demo system your friend can allow you to explore the functionality of the system and try out the various elements. You can try to break the system but can remain safe in the knowledge that you aren't going to adversely affect the business whilst doing so.

Using a demo system is a great way to gain real learning experience. Whilst I advocate Standard Operating Procedures (SOPs) there is something essential about being able to press those buttons and pull those levers in order to go through the practical procedures to gain experience. If there is no SOP written and you need to change your system then you may need to try other MRP options. Playing with the system in a safe environment is a good way to experiment with the ideas contained in this book.

Having access to real data is also important as it can give you the right feel when you are playing with the system. Many businesses that I know have arranged with their IT department to copy across the live database information once a month (or more often). This provides a meaningful experience to the users who want to play in their test areas. Many MRP software companies can provide test data, but if it looks nothing like your real data then the trials may be sub-optimal. If your Bills of Materials are multi level and your test data is relatively flat, for example, then you may find that your experiments lack the substance you want.

I mentioned above the opportunity to try and 'break' the system. In the demo version of the system you can try and work out what the limits of your system are. When I say 'break' I am referring to your understanding of the constraints of the system improving. Can it process your information in a certain way? Can it handle specific

types of configuration in your components? If you have a question and you can configure your system to accept the change you can test it. If the test goes wrong when you operate the system then you will know how the system reacts and can avoid doing that on the real system. From doing this kind of experiment you can gain insights into how you can further improve your system.

Going back to SOPs for a moment, the demo system is a good place to write these instructional guides. The data is real (although out of date) so any screenshots you choose to use in the document will look authentic. The demo system becomes really useful for doing this when you want to capture the MRP run, or similar programs, mid cycle for a screenshot. This prevents you from disturbing other system users, or affecting the data in the system. Using the demo system can allow you to write your SOPs, recording the most sensitive of activities, without bothering other users.

Making the demo system your friend can allow you to get more out of your system in the long run. You can use it to test your ideas and see what works for you. If there are elements of this book later on that make you want to reconfigure the system then try it in the demo system first. Understanding exactly what the output is on your system with your data is only something that you can do; using the demo system makes this a safe encounter. So, find where your demo system lives and see if you can make it your ally.

Action Steps

- Find your demo system.

- Use it to test out configuration options and ideas you have for improving how your system works.

- Gain confidence by testing out options and theories in a safe environment.

Understand The Linkages

As with all systems, processes within MRP systems need to flow together. The information in one part of the system often finds its way into another part of the system. The data might not necessarily move, but it may be converted into some other form of data (like hours being converted into a monetary value). When there is a lack of appreciation about the need for good data in other parts of the MRP system bad practices can develop and this is often where I see the problem lying. If we get better acquainted with what happens to our data once it leaves us then we may choose to do something different.

Appreciating that there is a flow of data is probably the best place to start. Sharing with all the teams how the data flows from one part of the MRP system to the next can give some people a wakeup call. I have witnessed many companies who have witnessed a decrease in data quality over time because the importance of the information in the business is not clear. When times get busy and the capacity versus quality debate rears its head then we risk our methods of working being shortened in order to keep up with the workload. If there are no apparent consequences then the new method may become the standard and over time this shortcut can affect the other parts of your business.

Clarifying the data requirements of other departments in your business can help to sort out these issues. Knowing what other departments do with your data, when they need and how they need it can be all it takes to start experiencing better information. Putting the needs of other departments into context can be a short process to undertake, a simple spider diagram relating all of your internal data customers can often do the trick.

If you have variation in your data entries into the MRP system, such as a text field in a notes box, then standardising the way that you enter your data could be worth considering. When people who use this information have to think and decipher the messages then quite often the information stops getting looked at. If the data is ignored then the process can then start to break down because ‘why bother?’ Although I have already touched on downward spirals with MRP systems, it is worth emphasising that poor quality and inconsistent data accelerates the process. Good standardised data on the other hand helps to engage users with the system and help to maintain a good discipline around the use of the system. So, if you have room for variation in your data entries, consider developing a fixed / standard format for writing these messages.

Like most of the topics in this book, getting the right people from the right teams to have a conversation about how their parts of the system work and their requirements for data can be a quick, low cost and simple method to get the fixes made. As I have implied in this section, most of the declines in data quality are due to a lack of understanding rather than a malicious attempt to cut corners with the quality of the data in the system. Developing ways to detect poor data quality is a topic we'll cover later in the book, but often it only comes to light when someone interrogates the information and finds that they cannot use the data in a meaningful way. This retrospective review isn't the way forward and won't help your business. Managing data quality is not an impossible task as we will discuss later on.

Action Steps

- Find where your data is poor.

- Find the person / people responsible and educate them on why the data needs to be right.

- Answer their questions and help them to develop better ways of working.

Importing And Exporting

When we are improving the information in our systems we can find ourselves with a rather laborious and time consuming task ahead of us. The amount of data entry that we can be faced with can be huge and, although we can rope in our colleagues, the size of the task could have a detrimental effect on the rest of the business. Thankfully should this situation arise then most modern MRP systems have excellent importing and exporting functionality that (like the demo system) you would be well advised to become friends with.

From the point of view of checking information, it can be painstaking to review individual records within your system. Getting the whole lot dumped into a spreadsheet can allow you to quickly manipulate data to check for specific patterns of information that may be incorrect, or segment the data so visual inspection of records can be done a lot faster. Whilst report writers are good for making this happen too, when an export comes from the MRP system you know it will be in the right format to re-insert (or import) the data back into the database at a later date in time. I have seen many businesses spend a lot of hours trying to comb through records manually over a period of weeks where the whole task could be completed in less than half an hour via a download from the system.

Once you have the data out of the system you can use your spreadsheet abilities to quickly sort and amend data before importing back into the system. Whilst I don't advocate general workarounds surrounding MRP systems I do support the use of external tools to help with a quick turnaround of data in remedial situations. If you are familiar with the Pareto principle (or 80/20 principle) you will know that a few inputs can give you a large output in a given system. Exporting and quickly manipulating data before amending it and importing it back into a system is a very efficient use of time. Instead of having to slog your guts out doing the work you can do in minutes what might take days or weeks.

Extending the idea of using spreadsheets to manipulate the data is the idea of using codes within your products / components to make this manipulation easier. When you export data from your system to a spreadsheet you will need to find something within the data to allow you to sort the information. When you set products up in your system you usually get options to include various codes, or classes, to distinguish product types, or raw material types, or whatever you include in your system. When you export data you can use these codes to help navigate your way around your data. If you haven't got such codes then you may find that you will have to be more creative with your searching techniques, which can make the process

longer and more risky (in the sense that you omit data during your searches). If you don't have such codes in your system then you could use the exporting and importing function to put these codes in place.

Exporting and importing of data is an important remedial technique. You shouldn't need to do it too often but, when you do, it can save you a lot of time.

Action Steps

- Find out how to export and import data within your MRP system.

- Set up identification / class codes to distinguish different types of parts.

- Use the Pareto principle to quickly identify parts that need configuring and use the export / import function to make changes quickly.

Case Studies

To help put these points into context I thought I would share a couple of anonymous case studies.

The first case study is of an established manufacturing business that makes components for aircraft. Although they had been MRPII users for over two decades, prior to the latest system being introduced, the previous systems had never been fully established. As a result of the systems never truly operating in the way that they were designed, people developed workarounds. The lack of credible data in the system meant that the people downstream couldn't use their system properly and led to them having to create their own workarounds too.

This mentality of not using the system flowed into the latest system they had implemented and although the ability to interrogate the system was vastly improved (along with the speed of the system working) the users failed to change their habits pre-implementation. When I worked with them they were fighting their information and still trying to do things long hand.

The configuration of their system led to frustrating phone calls with the software's support team, so we used the demo version of the system and determined accurately how the system was operating using their information. This allowed us to define the choices we needed to make, plus the options that were available to us. Using the demo system also allowed us to work with the users to test out the correct ways of working in an environment where it didn't matter if things went wrong. Things didn't go wrong and the users gained significant confidence with the system.

The level of fighting with the system (in terms of trying to override the system's advice and recommendations) diminished too, allowing the users to spend more time on doing the important things and less time administrating the system itself. By refining the routines that the team worked to and re-engineering a couple of the internal processes we were able to drop eight work days of administration from the team's monthly workload. You can imagine what this did for the team's morale as well as their ability to work on the right tasks.

This business' performance improved directly as a result. Incoming material supplies improved, stocks reduced, scheduling accuracy improved, on time delivery improved and there was a dramatic reduction in customer queries bombarding the customer support team!

The second case study I want to share with you is about another manufacturing company, this time producing bespoke components for the power generation sector. Their system was introduced three years prior to my involvement with the business, and like the previous example their company had experienced many years of MRP systems prior to this system's introduction.

Whilst in this example there were not as many workarounds in operation, the sheer volume of effort it took to maintain the system was huge. Each product was designed for each order; there were very few repeat orders. For each order on the MRP system there was a large amount of effort involved in preparing the shop floor paperwork and also in the purchasing and designing activities.

Standing back from the busy work it became clear that generic families could be used to drop the volume of work required at the shop floor paperwork stage from half of an engineer's time to five minutes per day. This saved time was then re-directed to production line improvement work.

The shop floor data capture modules weren't being used; they had never been switched on, let alone adopted. The shop floor teams wanted better information as it took a full time job to merely keep a list approximately up to date. The teams wanted immediate information and the manual system wasn't coping. So, the teams decided to embrace the shop floor data capture information and this freed up the original planning role for improving the front end loading issues into the business.

These two changes made a significant difference to the operational performance of the business. The lead time dropped from nearly twenty weeks to under four and on time delivery performance rose from 22% to a peak of 98% (settling at a 95% average) over the same period.

The system didn't change, the team did. A few minor modifications to the approach they took with their system allowed for some large benefits to be gained.

Both of these examples aren't unusual. If you keep reading and applying the ideas from the later sections in this book then you too will be able to make significant improvements to how your MRP system serves your business. Thankfully the changes aren't too technical either, more managerial. The people with the technical skills have

already done their bit – they built your MRP system. The trick is for you to now use the system to its full effect.

Summary

This section of the book is all about the top level management of your approach to using MRP systems within your business. I'll get onto the more technical aspects of setting up / modifying your system later on, but don't worry – it won't get too deep. Before you move on however I want to recap on what we have covered so far.

We started off by reviewing the type of business that you wish to operate. The main choices are Engineer to Order (ETO), Make to Order (MTO) and Make to Stock (MTS). Choosing the most appropriate option can help you to think through how you want to operate your system and the management of your teams.

Your place on the journey is important when trying to take your team with you. Knowing how quickly they can progress and how slowly you need to take the improvement work can help to circumvent problems with the changes you want to make. Don't try to rush the improvements, but do your best to accelerate the progress being made.

Workarounds can derail systems and if you can spot them in your organisation then please do your best to find out why the system isn't being adhered to. Getting to the root cause of why the workarounds exist is vital for making longer term gains with your MRP system.

The demo system that lurks in your business can be an absolute God-send when you want to get your team to try out their ideas and to find out how your system actually works. This element goes hand in hand with the workarounds as better knowledge of the system can help to eliminate these additional methods of working.

Information flows between departments work via MRP systems and gaining a better understanding of these can also help to improve the uptake of the system as it stands. Lack of understanding can be a real killer to properly utilising the system and, as you know; better information can lead to better business decisions and better performance.

Importing and exporting data from your system can make modifications to the data a fast and palatable option. Making the changes 'long hand' by changing each individual record can be soul destroying as well as time consuming and is prone to errors. Finding out how your systems deal with imported and exported data can save you a lot of time should you find that your current set up of the system (or the components within the system) needs to be altered.

In the next section we are going to look at the more technical elements of configuring your MRP system so that it works the way that you want it to work.

END OF SAMPLE

Click here to purchase the book.