

## **Implementation of a Manufacturing System in a SME**

So you've made your decision to buy a new software package.

It may be true that no matter how much you research or plan for an implementation, it will not be easy, but having a plan in place, doing adequate preparation, and getting good support from your software provider will go a long way to ease the process and make it successful.

You need to begin preparation for the implementation now.

### **Decide who will be your champion**

There is no question that you need a champion. This champion will be the project leader for the implementation. A great deal of assistance will be provided by the software provider but making sure that staff can, and do, adhere to given timelines is an internal affair.

The decision as to who will be the project leader for the implementation is often given too little importance. This person can help or hinder an implementation enormously. They are usually the main interface between the MD and the software provider, so it is important to keep under consideration any possible hidden agendas and to ensure that a successful implementation is their priority.

A champion must be someone who not only has the incentive and the time, but also the authority to 'make it happen'. Even so, it is essential for the MD to keep a keen eye on what is happening. Whenever possible the MD should attend the review meetings and keep in direct contact with the software provider.

### **Appointing a Team**

In addition to the project leader, you will need a project team of 3 to 4 people. The other members of this team need to be the major players in the areas of Finance, Sales, Purchasing and Operations (manufacturing and inventory). These team members will not need to dedicate as much time as the project leader but their input will still be significant. The reason for their requirement on the project team is to oversee their areas of the implementation. The team as a whole will make decisions on business practices and processes.

### **Staff Pressures**

- It is important that the pressures on staff when implementing this type of software are not underestimated.
- Additional staff may need to be employed to assist those most involved in the implementation.
- All staff who will use the software need to be allocated time for both training, and practice. Too often management forget about practice. Even so, it is not enough that management simply support this, they must actively promote practice time.
- At the time of cut-over, allow for the fact that staff will probably be working long hours for the first couple of weeks.

### **Preparation of Data ready for the new system**

Once the software provider has come on board they will work out what is involved in getting the data into the new system, how this will be done, and approximate timing. Wherever possible, data should be drawn from current systems. This saves time and helps to eliminate data entry error. The proviso, of course, is that the data held in the old system is accurate.

It is not necessary to wait for a software provider to be appointed before doing some data preparation. This is usually the most time consuming activity of the whole implementation

and therefore prior preparation can be of enormous value. No-one wants to put 'unclean' data into a new system.

So what must be right before your system can work correctly?

### **Customers and Suppliers**

- The software you are moving from may only use customer and supplier names and not codes. The system you are moving to will use a code for ease of entry. It is necessary for these codes to be mnemonic, that is, an easily remembered representation of the company name. Sometimes the initials of the company may be used or the first few characters. It is possible to use a formula to lift the first few characters from a company name but this is only a guide. The code must be unique and it requires human input to make sure the codes are true representations of the company name. As an initial preparation the customers and suppliers names could be exported to a spreadsheet. Two extra columns could then be used to show the codes and any changes to the name. It is important to keep the old name exact in order to keep the link back to the old system.
- It is essential that customer pricing is represented accurately in the new system. Discounts specific to a customer need to be captured along with their currency. More complex pricing also needs to be known. It may be possible to lift this from the previous system or it may be that this is presented in a spreadsheet. Or it could be that this information is entered directly into the new system. However, in all cases the information needs to be readily available and accurate.
- Before the system goes live, it is essential that sales representatives are shown correctly against customers, also against item categories if this is applicable.

### **Items**

- Segment your inventory so that you know what items are sold, what are the raw materials, what are purchased, and what are manufactured.
- Decide what items should be put into the new system. Items that were once-offs or are now discontinued should be excluded.
- Look at what you actually stock as opposed to what you purchase directly for a sales order or for a work order. If an item is not stocked it may not need to be held in inventory. Just because your old system insisted on all items being held does not mean that this practice must continue. Costs may be garnished directly from a Purchase Order. Not including these items in a system has been known to reduce total items by up to 75%.
- With the purchased items that you intend to keep in inventory, make sure they have at least one nominated supplier – make sure the code or name matches your list of suppliers. Get the usual lead time from that supplier. Ensure the currency recorded is their currency and give their normal price in their own currency.
- This is an ideal time to reassess your product and material coding. Make sure your item codes are unique, are not too long and have some meaning to them. However do not try to get total definition in a code, remember selection lists showing descriptions reduce the need for memorising a structure. General rule is major characteristics to the left. Keep each grouping the same length so that drop down lists will group them together. Avoid special characters if at all possible, except maybe the dash. The length is important not just because the new system will probably have a limit, maybe 20 characters, but also because a large code may be difficult to remember and hinder the selection process when entering transactions. It is unlikely that you will be able to change your item codes in your current system. It is recommended therefore, that you export your current codes to a spreadsheet. Create a new column and enter the new code against the old code. In this way a link back to your old system is maintained. This will be required if you are going to convert your sales history or pick-up other information at a later date.

## Manufacturing Specifications

Of all the areas where problems are encountered, this would be the greatest.

- **Bills of material**, they are there but..., and it's usually a big but. The question is when were they last updated, in other words how accurate are they and what format are they held in? Bills of material may be held in spreadsheets but not necessarily in a usable format.
  - The spreadsheet needs to show the finished product, the materials that go into the product and the quantities used to make a unit of finished product.
  - The item codes used in the bills of material must exactly match the inventory item codes.
  - The materials listed must be the materials that are used currently – not the ones that were used initially but have since changed.
  - The quantities specified must be the quantities actually used now when a product is made.
  - Specifically the bills of materials must be current and accurate.
  - Formulations must be exact, showing the usual materials and quantities. Ad-hoc substitutions will take place in the work order not the item specification.
  - Where there are alternative formulations for an item, these need to be noted as different versions of the same product – not different products.
  - If drawings are used, these too need be current.
- **Operations** are another issue. Many organizations moving to a new system have not formalized their operations. Operations detail the labour time and actions required to create a product. What is done, how long it takes, and where it happens.
  - For each Item Specification, list your operations and the order they take place.
  - For each operation, note where the work takes place, how long the job takes to set up, and the time taken to do this specific operation. The labour rate may be different for set-up as opposed to the standard operations. You will also need the detail of what happens but this may be picked up later.

These labour times are the standards. Although actuals may be entered at the completion of the job, it is often the case initially, that the standard labour times are used. This means that they need to be fairly accurate if you want your costs to be accurate. The old adage always applies garbage in, garbage out.

## Initial Planning Session

Once a decision on the software has been made, you should have an initial planning session with the software provider. From this meeting you should get:

- A draft implementation plan using broad brush-strokes and putting in the timing of the main goals. This may work backwards from the time you want to go live.
- A document giving the scope of the project and its objectives.
- Project milestones and their timing including both the action to be taken and the date when it should be completed. These are essential for ensuring a project runs to time. Any delays in the milestones will reflect on the final cut over.

## The Implementation Plan

- After that initial meeting, the software provider should create a detailed draft implementation plan. This should include names and dates and plan out the full implementation path.
- You then review this plan with your staff. It is essential to ensure that timings are realistic. The process of implementation is very work intensive for staff. It is important to ensure staff will be able to devote time to the training and implementation and that they are willing to sign off on this commitment. It is often necessary to employ additional help during an implementation.

## **Monitoring and Reporting**

There is little use in having a great plan if it is not monitored.

- The finalized plan, which may cover a six month period, should be reviewed each month. It is necessary to both confirm the dates for the coming month, and ensure that everything that was planned for the previous month has been completed.
- Tight management of the project is essential. These meetings have to include someone from within your organisation who is authorized to make decisions. The meetings need to be structured to ensure they result in confirmed decisions, dates, and the names of those given the responsibility to 'make it happen'.
- It may be necessary to have a higher level meeting occasionally to address any staffing / timing issues.

## **Training**

- Your organization needs to identify the people who will be using the system and in what capacity. The software provider will use this information to formulate a training plan.
- It is important to train on a 'just in time' basis. Every one of us knows that if we don't use it, we lose it. And if too much time elapses between being trained and putting those skills to use, everyone forgets. So the timing of the training is extremely important.
- As said before, it is not enough to give staff time to train; they also need time to practice.

## **Business Practices**

Then there is the issue of business practices and how these fit in with the software. An implementation of this kind is an ideal time to review how your organization works. What is efficient, and what needs changing. Will the software need to be modified or do you need to change the way things are done – what are the benefits of each, and what are the costs (both in time and money).

Ideally the software provider will use a manufacturing consultant as part of the implementation. If this is the case, the consultant will have implemented software in many different manufacturing environments and be aware of the general pitfalls as well as the benefits of working a particular way.

They can't tell you how to run your business but they should be able to give you advice on how they have seen it work within other organizations. When you are considering changing business practices, discussing tactics with a manufacturing consultant certainly makes things easier; especially when they also know how best the software can be manipulated for various scenarios.

You may also wish to employ your own consultant. A new system tends to force correct procedures. This is a good thing in the long run but can cause negativity initially, the old way being easier. An external consultant can sometimes make the transition into best practices a little easier and generally ease the work load on senior staff. They may also assist in the new system being used to its full advantage.

Business workshops are a great way to work through any issues in regard to how the software will be used within your organization. These workshops need to be held after your project team have gone through the training on the new system. This is so that your staff can highlight any operations where the current/future business processes need to be discussed. The software provider's manufacturing consultant may be able to suggest alternate measures which may mean a change in business practices, or it may be necessary to make a modification to the software, in either case the immediate implications and consequences are discussed and resolved within the workshop.

## **Support from the Software Provider**

It is important to have on-site support from the software company during implementation. This is particularly true during the time of cut-over when a fair amount of hand-holding is required.

### **Management Support**

As I said at the beginning, it is essential that the pressures of implementation on your staff are not underestimated. Good training helps them enormously but they also need reassurance and assistance, and acknowledgement that their role in a smooth implementation is an important one. The full support of senior management is essential. When staff leave during an implementation, it is rarely because of the pressure of work. It is far more likely to be because of the lack of acknowledgement of the extra effort they are putting in, or a feeling that their input is not of value. Management has to understand and acknowledge the pressure on staff learning a new system while still keeping the business running as before.

### **Responsibility**

You will have heard various horror stories about implementations, the tendency is to blame the software provider, and no doubt sometimes they will have contributed to the failure, but in essence whether an implementation is a success or failure, lies in your hands. You have to choose your software carefully, you have to ensure staff are fully committed, you have to stand behind the implementation 100%, you have to give staff time to learn and practice, and you have to monitor the implementation's progress. Sometimes Managing Director's feel they don't have sufficient time or they don't feel very confident around computers, but if an implementation is to be a success then the MD must be firmly behind it.

### **A Successful Implementation**

The software once implemented does make everyone's life so much easier and less stressful. Staff love it, and so does management. Everything is integrated, there's no double handling, and information is visible. Costs, sales and margins can be seen at the touch of a button. Quotes are automatically converted into sales orders and quote specifications into work orders. Planned purchase orders are automatically scheduled and raised. Orders are despatched as soon as goods are available and stock holding is kept to a minimum. Forecasting, planning, scheduling and financials are all done in the system. Sales people can see how their orders are progressing and customers will get their goods when promised. Costs are accurate and sales are not just measured in dollars but in profit margins. Waste is eliminated, inventories are down but service levels are higher. Your company is leaner and more responsive.

Is it easy? No. Is it worth the effort? Most definitely. Does preparation make it easier? Yes, and it also makes the whole process faster.

Now back to the first step, selecting the right software for your organisation.