Manufacturing Automation - The missing element

Automation has been adopted on the manufacturing shop floor.

There are some sophisticated machines doing amazing accurate work at speed.

Robots are doing tasks to get best use from the machines, conveyor belts are moving supplies and products.

The warehouse with raw material and stock of finished product is operating like clockwork with autonomous handlers moving around the pallets.

So what is missing from the automation?

The Manufacturing Office

Nothing happens in the business without the “Back Office” setting up the process, getting the stock and matching up the production to the orders.

The office staff have IT systems, lots of them, such as ERP (Oracle, SAP, Netsuite, Epicor, Infor, MS Dynamics), Finance (Sage, Xero, QuickBooks), HR (Workday, Sage HR, SAP, BrightHR), CRM (Salesforce, Hubspot, Zoho). For many there are also Excel spreadsheets and reporting tools (SAS, MS Power BI, SAP Business Objects, Qlik).

There may not be many people in the office compared to the production line but they are the vital cog in the system.

Raw materials need to be ordered, finished goods despatched, orders processed into jobs for production, invoices to clients raise, monies received, credit checks on customers, infrastructure maintained, staff paid, staff trained, staff recruited…the list goes on.

There are many different tasks completed by the staff in the office. They can be the "Lubricant" of the business.

How long can the business operate without the office staff?

The knowledge carried by office staff can be immense. They know how the business works.

Recruiting staff to perform the office work is difficult, sure temporary staff can do some "admin" work but the core team are essential.

That is the missing piece in the Automation scenario.

Missing Piece of Automation

The office staff will be following Business Processes. Using the IT systems they will be doing manual work on the computers. Performing a wide variety of tasks. Some daily tasks, some weekly and some less frequently.

There will be peaks and troughs in the workload, but there will be a regular cycle of activities to keep the business operating.

Some tasks are time critical with direct impact on the production processes or the fulfilment of customer order delivery times. Other tasks can be important but have more flexibility in their timescale.

No matter how good the internal IT systems are, the office staff will be interacting externally with customers, suppliers and probably compliance organisations (e.g. Government bodies).

This is the missing bit of Automation in the business of manufacturing!

What can be described as "Boring Work" – the admin, the compliance, the regular routine execution of business processes on computer systems.

The IT systems have digitised the processes from paper and pen, but they often still require a lot of manual work by people to operate them.

Automation of office tasks

The way everybody interacts with an IT system, is by reading from a screen, typing on a keyboard plus moving and clicking a mouse.

A software robot can read from the screen, simulate keyboard typing and simulate mouse movements plus clicks.

The software robot interacts with the existing IT system just like a person, so the person is free to do something else of more value than the "Boring Work".

Automation using software robots which "Simulate" the activities a person would do manually on a computer. (Yes, it may involve some AI but a lot of the work is straight forward). Once the automation is in place, staff have time to focus on exceptions, the unusual and activities that improve the quality.

By designing Automation into the execution of the Business Processes, a number of potential benefits can occur including 24 x 7 working, the flexibility to cope with peaks and troughs in workload, plus less dependency on staff being available.

How to start with Automation

The thought of starting with Automation can be daunting, but imagine if there was a new recruit to work as part of the office team.

How would you train them?

An existing team member would show them what to do including showing them the documentation ("Work Instructions" / "Standard Operating Procedure") for the tasks.

As a new team member, their work would be checked and monitored until confidence was developed in their ability to deliver quality results.

Creating an automation of the tasks is very similar.

Any task could be automated, but it is most effective to implement automation for simple tasks that are repeated frequently.

Typically tasks that are repeated everyday, many times a day, are tasks which are most suitable for automation.

A business process is often made up of a lot of smaller simpler tasks. At this granular level it can be easier to see how automation can be created.

Boring to find exceptions

Some of the most boring tasks that need to be undertaken are ones where it is an exception that is being sought.

Credit Checking is one example. If a customer was OK on its last order, it will be OK this time – no need to check, we are busy.

Most of the time the lack of a check will not be an issue, but it is that exception situation which becomes a big issue.

Using software robots to perform such boring tasks and alert you when there is an exception, is a much better use of valuable staff time. Credit Checking tasks are predictable, routine and far from exciting they are typical "Boring Work".

Another example is tasks to perform periodic checks on customer as well as supplier names and addresses. They are often put off. They are seen as low priority as the vast majority will be correct and there will only be a few exceptions. It is really boring work for a person to verify the data. It is an ideal task for a software robot to perform.

Resolving exceptions can reduce risks for a business in many scenarios including the potential for fraud.

Automate today, tomorrow, maybe next month

The business is operating so perhaps the start of automation can be delayed.

It probably can but the risk will remain.

Is it possible to keep asking staff to do that extra work?

Automation will deliver benefits, why would you not want them soon?