MASTER MANUALLY BEFORE AUTOMATING

By Harold Chapman

SLAVE OR MASTER?

Too many times we have seen companies implement very expensive and sophisticated automated solutions to solve their problems. Some common examples of this improper implementation can be seen in the following:

- Andon Systems - without having created the discipline for a problem response culture.
- Electronic Kanban - without understanding how the Kanban process works.
- Electronic Problem Capture and Tracking – without a plan to solve the problems being exposed.
- Overall Equipment Effectiveness Data (OEE) – without understanding the elements of OEE or having a plan to feedback to the PM or TPM checks when problems are seen.
- Material Requirements Planning System – without understanding the proper flow of material in the factory or how the MRP System can support a Lean Enterprise.
- Automated Data Collections Systems – allowing people to attempt to solve problems without actually going to the Gemba to see what is really happening.

These solutions are often neither understood nor used effectively. By doing this, we almost always ensure the system will not be used. In many cases, they will be removed from the factory thus wasting the investment made by the company. At other times, we have observed that a company will become a "slave" to the system because they have to adapt their business practice to the system's capabilities rather than the system adapting to business needs. We suggest we should save our time and money and instead, focus deeply on understanding our processes manually before adding expensive automated solutions. By mastering manually, we can ensure the process is understood and the discipline to follow the system is developed.

COMMON LOSSES

As an example, a company had dozens of CNC machining centers, each representing an investment of over $600k and had installed an Andon board with lights corresponding to each machine. When the machine experienced downtime, the corresponding light went on.

Initially, the typical situation was for 25-50% of the lights to be on at any given time. A few years later, I was visiting the plant. As I walked by, I noticed there were no lights on. I observed that they had done a great job on preventive maintenance on the CNCs because no lights were lit. Sheepishly, the person with me told me that they had turned the Andon off because it was embarrassing to expose the fact that, at any given time, 25-50% of the machines were still down. They had heard it would be a good thing to do, but didn't understand why to do it. They did not put any kind of problem response system in place.

Those same CNC's were served by an AGV (Automatic Guided Vehicle) to move the parts around. When the AGV battery was low, it went to a charging station. However it had to be plugged in manually. So there was an alarm to alert people in the area that it needed to be plugged in. People would ignore the alarm until the CNCs began to run out of parts, then they would go and find both AGV's parked at the charging station with neither plugged in.

It was a significant source of productivity loss. This is a shame, and it is more common than you think.

PURSUING MASTERY

In contrast, at other factories, where they have implemented manual systems of data collecting during Kaizen activities, you can see managers of each function walking the factory, checking the data and asking questions to help get to root cause. These systems are very manual and are easily adjusted based on what we are learning about the process. While some plants are very sophisticated in their technology, they are lacking the basic discipline to master manually to build the habits of going to the Gemba (the place of activity) to continually improve the process.

Do you have systems in your plant that aren't followed or even have been disconnected due to no use? Do you have automation that has become an immovable monument or to which your business process has become a "slave?" If so, you may need to start with the basics and Master Manually before Automating. We encourage you to learn more about how to create a learning organization where Mastering Manually is a central principle. In any case LMSPI can help; learn more at www.LMSPI.com.