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"You can see a lot by just looking" *—Yogi Berra*

As noted in recent issues regarding theory blindness and conventional wisdom, there are pitfalls associated with making decisions based upon assumed knowledge. Similarly, it is important to recognize the danger of ignoring what might be the simplest approach to process improvement—watching and studying the work!

Mary Jane Conway-King

The Ohno Circle

By: Sheila Julien, Senior Associate

The most important responsibility a manager has is to continually improve the system of work so his or her people can work more effectively and efficiently, producing higher quality and greater value for the customers. We surface and eliminate the waste in a variety of ways, asking people close to the work for their input, studying how other companies have achieved improvements, bringing in consultants and studying journals. However, the most effective and least expensive process improvement method may be the simple method of looking and thinking about what you see.

In the mid-eighties, I was a member of a small team of professionals asked to determine how to fix the problems with a multi-million dollar robotics line. This robotic line was designed to prevent stock-outs and excess parts inventory on the assembly line by using bar-coded totes, an overhead conveyor belt, and scanners and switches to send a new tote of replenishment parts to exactly the right workstation. When a tote was emptied, it was placed on the return conveyor and when the return scanner read the barcode, the tote number would be captured. The scanner would record the emptied tote numbers, and every three minutes this list would be transmitted to the inventory software. Inventory would be decremented for workstations that had been assigned that tote number and a replenishment order would pop up at the material handling station. The system failed so miserably that the supervisors had to take a complete physical inventory at the start of every shift to correct the inventory records.

We spent several weeks conducting interviews and studying the floor layout diagram, the process flows, and the computer code to crack a mystery we could have solved in 20 minutes using the 'Ohno Circle' method. Taiichi Ohno is credited for much of the thinking behind the Toyota Production System, and he invented a novel method of making improvements. He would go to where the work was being done, draw a chalk circle on the floor, and stand in it. He would stand for hours, watching and thinking about what he was seeing. He would look for what was getting in the way of people creating value and he would study the situation to determine what was causing it. This gave him the insight he needed to make lasting improvements.

Of course, our team of problem solvers had toured the line, but while we had looked, we had not watched. If one of us had stood in one place long enough to watch carefully, she would have seen the returned totes drop off of the return conveyor and nest one inside another. The next minute, she would have seen someone take the newly dropped empty tote from the top of the stack, and

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use it for the next order. The material handler would key in the tote number, the new workstation destination, and the part numbers being sent there and send the tote on its way — often less than a minute after the tote had dropped off the return conveyor. That is, the observer would quickly have realized that the tote re-use process was too fast for the information flow — which reported the list of emptied totes only once every three minutes. Whenever a tote was reused before the list was sent, the inventory of the new workstation would be decremented instead of the inventory at the workstation that had returned the tote.

With this insight, the problem was easily solved — change the frequency of the systems updates or change the return tote process so that no totes were refilled within 3 minutes of dropping off the belt. The latter was the easier solution and a poka-yoke was quickly implemented to make it impossible for a recent tote to be selected and keyed in.

A little bit of watching can tell us a lot.

The 'Ohno Circle' in the Office

The importance of watching and understanding goes well beyond the manufacturing floor. I recently worked with a bank to streamline the credit monitoring process for their portfolio of small business loans. They believed that for small dollar loans, rather than a full-blown annual review, they could monitor a few quantifiable parameters such as payment timeliness, overdraft history, and several others. On paper, it seemed as if this new process should take no more than 20 minutes, but in actuality it was taking nearly an hour. I met with the people doing the work, mapped the process with the Post-It notes, but got no good ideas about how to get from 60 to 20 minutes.

Finally, I did what I should have done from the start — I crowded into a corner of the tiny cubical, trying to be inconspicuous and out of the way, and watched the process. Eureka! Our mapping had left out one big thing: in order to add one relatively unimportant piece of data to the monitoring spreadsheet, the credit analyst had to pull the paper file. That took five minutes, but was not the full extent of the waste that had been omitted from our process map. It turns out, once the analyst pulled the file, he felt obligated to read through the inch-thick folder — just in case it contained some relevant information within. Suddenly the twenty minute process took sixty. We eliminated the one minor piece of information that was only found in the paper file and the process could be done in less than ½ of the time.

The 'Ohno Circle' when Introducing New Products & Technology

Watching the work first hand is very efficient and powerfully effective for all sorts of process improvements, but is especially powerful when we want to implement a new product, process or technology.

Perhaps the biggest waste a business can incur is to introduce a product that is not perfectly aligned with the customers' needs. We often invest a lot of time and money on features that we think will add value but do not actually add value for the customers. Even more often, we fail to incorporate

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a product or feature that would address unmet needs — because we do not perfectly understand or internalize the customers' true problems and needs. We learn too little and assume too much.

A version of the 'Ohno Circle' applied to new product design is called Contextual Inquiry. This involves going to the customers and watching, learning, understanding how they use our products or how they deal with problems our products hope to solve. Until we spend time in a virtual 'Ohno Circle' watching our customers' problems and needs, we will not truly understand them. We will be almost certain to over-weight the value of some of potential features and overlook some needs we could easily meet. Whenever we design a product with features that few people use or value, we have created significant waste.

Another major waste in many companies stems from underutilized technology. On paper there may appear to be tremendous productivity improvements to be gained from new technology, but often the productivity improvement fails to materialize. Often people learn and use only a small fraction of the power and features in the available technology and the company gets only a fraction of the benefit they should. Sometimes people use the new technology in addition to rather than instead of the old tools and methods — so now the work is slower rather than faster. (True story: about 5 years ago, I observed someone use an adding machine to sum a list she had typed into an Excel spreadsheet. She then typed the sum at the bottom of the Excel sheet before keying it into their new SAP system.)

Spending time to watch and understand how people do the work today, before the new technology is designed or selected can help to greatly reduce the waste of underutilized technology. By studying, in person, the current reality, one can:

- Surface what works well with the current process and which should be maintained (because improvements that incorporate and build on current successful features are more likely to be accepted by users);

- Identify the waste in the current process, so that the new process or technology can be designed with poka-yokes that prevent that waste or make it visible if it creeps in.

- Gain visibility to likely obstacles to a successful implementation so the change agent can anticipate and thoughtfully plan how to overcome those obstacles.

One of our clients had implemented a Customer Relationship Management system and it had failed miserably. It was expensive, despised by the users, and largely ignored. Eventually, after a lot of time and expense, it was simply abandoned. A new leader came in and concluded what they needed was a CRM with a nicer user interface. They mapped out the sales process conceptually, mapped out how the new CRM system would work, measured the productivity savings they could get. But then they decided to apply the Ohno Circle: the project leader asked sales reps if he could just shadow them for a few days as they managed the relationships in their portfolio.

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Time spent watching and learning how the sales reps handled their clients in a low tech fashion gave the project leader insights into a whole new range of different, less expensive, and more user-acceptable approaches to improving the customer relationship.

Quick Fixes

When designing a new product or technology, it is worth spending a substantial amount of time to really watch, study and learn as well as to interview and survey customers or potential customers. But often one can gain powerful insights about how to improve the work with very short but focused observation. Author Barry Jeffrey recommends that line leaders schedule 30 minutes of uninterrupted time to watch and study the work in order to learn what is getting in people's way. He recommends that a supervisor simply stand in one spot for fifteen minutes and just watch. Write down any problems you see or things that are difficult to understand. At the end of the 15 minutes, take the next fifteen minutes to try to solve one problem or to make one thing better. Repeat daily. You will be amazed at what you can do!