SINGLE POINT LESSON:

WORK SAMPLING TO ELIMINATE WASTE

From LEAN MAINTENANCE Course

LIFE CYCLE INSTITUTE

What is it?

Work sampling is a formal technique to evaluate the activities of your maintenance work force over time. Most supervisors informally (or even unconsciously) do their own version of work sampling as they walk around. Using work sampling, management can secure facts and uncover patterns about the operation without watching everyone all the time. It is a systematic, spot-checking activity where different observers under the same conditions will get the same results. Under certain circumstances work sampling can be more accurate and reliable than continuous observation. This is a powerful technique to determine if improvements in procedures, systems, culture, tooling, parts room, supervision, etc. have actually increased the time spent working.

Why use it?

- Sampling will help you see the real pattern present so you can attack the problems where they actually occur.
- You must know how much lost time you have to work with.
- You need a baseline of your shop's productivity level before changes are made.
- After you change the culture or install some labor productivity improvement, you need to be able to measure its effect.

What factors are critical for success?

- You must define the scope of the study. You may want a general study to see how much time is spent in general categories.
- The study must be random.
- Record a person's activity before you are seen by them.
- Plan a study that will address a problem at hand. Assign people to the study.

Before you begin:

1. Review the study with the people in your crews.
2. Conduct a survey before and after to demonstrate the impact (if any!).

How do you do it?

Step 1: Randomness is the key to the whole study.

Step 2: Vary your routes through the maintenance facility to increase randomness and help 'surprise' the people. You can also train others to conduct the study and randomly vary the observer. You might consider training supervisors to conduct the study in other departments.

Step 3: Select random times from the random time tables. Plan 4-6 tours per day. Allow a reasonable time between tours. If the selected time runs into lunch or other established breaks, stop the tour. If the random time occurs during lunch, skip that tour.

Step 4: The second principle for success in work sampling is impartiality. Do not prejudge what you see or mix in outside factors (for example if you think you know that someone is a `good' or `bad' worker). You are trying to analyze the system, not the people. Do not focus on what the people were doing or what they are about to do, only on what they are currently doing. It is important to record a person's activity before you are seen by them.

Step 5: Use one tally sheet per shift. Use a separate sheet for each observer.

Step 6: Fill out the random times and random tour routes in advance. Enter them in the observation time and observation route rows. Conduct the tours using the routes indicated at the times indicated.

Step 7: Record the number of people at work that day; that is the number of observations you will make each tour. Enter that number in the available manpower row.

Step 8: During each tour, record the observation elements (what is being done) in the column of the specific observation time. You can use tally marks as you walk through. Tally one element (check mark) per observation per person per tour.

Step 9: If you observe crew members working in the wrong area or on the wrong job, make your observations where they are. Don't judge where or what they are doing, just if they are working.

Step 10: At the end of each shift total the observations and transfer to the recap sheet.

Source: Levitt, Joel. Lean Maintenance. New York: Industrial, 2008. Print.

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