Leveraging LABOR STANDARDS

Although they're different for everyone, engineered labor standards can pay off in increased productivity.

Engineered labor standards (ELS) are not widely used in warehouses or distribution centers, observes Douglas Rabeneck, industrial engineering consultant for H. B. Maynard and Company, Inc., Pittsburgh, Pa. Yet implementing such standards can enable a company to reap performance improvements of 10 percent to 30 percent, sometimes even 40 percent, Rabeneck says.

He identifies three main types of labor standards:

- **Guesstimates —** These are simply an educated guess at how long it takes to do a particular job.
- **Historical standards —** Such standards are based on how long it has taken in the past to perform a particular task.
- **Engineered standards —** These involve analyzing a task, determining how the task should be done, and then identifying how long it should take to do the job. In his book, *Engineered Standards*, Maynard says the goal of engineered standards is to "discover the way to do the job with the least amount of effort in the least amount of time without compromising safety or quality."

The three methods have pros and cons. "Guesstimates are easy to make," Rabeneck explains. "Almost no analysis is needed—anybody can take a wild guess and put a time to it." Historical standards do require researching time statistics and some analysis. With both guesstimates and historical standards, no judgement is made as to what is the best way to perform a task. Thus, unlike engineered labor standards, guesstimates and historical standards may have inefficiencies built into them.

Engineered standards are more difficult and time-consuming to develop. But with engineered standards, "you get a review of the methods and procedures in place, allowing you to see what's taking the longest time and correcting the operation," notes Brian Hudock, senior principal, Tompkins Associates, Raleigh, N.C.

Despite their benefits, engineered labor standards aren't right for every operation. "It depends on the complexity or simplicity of the operation," he says. Some operations can do just fine using standards based on historical data, such as a warehouse that handles pallets in and out of rack only. In this situation, "you can spend a lot of money doing a full-blown engineering study, but you won't necessarily get a good payback from the effort."

In general, "the larger the operation, the better the gain," Hudock says. Operations with more complex processes such as piece picking, kitting, special labeling or packaging can realize more benefit from an engineered study. In these cases, "there are so many variations that have to be accounted for that you can't just look at historical data. What you looked at yesterday may not be what you're doing today."

In addition, engineered standards give a clearer picture of overall performance, which is particularly important when implementing a performance-based incentive program.

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Types of Engineered Standards

There are several different types of engineered standards, each providing a different level of accuracy and detail. The most prevalent type, says Rabenack, is the stopwatch time study. An industrial engineer, armed with a stopwatch, observes someone performing a task and measures how long it takes to do it. Using a technique called "performance rating," the industrial engineer then defines the skill and effort level at which the employee did the job. The result is a rating level, such as 100 percent, 90 percent or 120 percent of what an average person would do.

Another approach involves using predetermined measures, such as referring to a database of times required to do a job. There are a number of predetermined time systems, including Method-Time Measurement, which was developed by the founder of H. B. Maynard and Company in the 1930s and 40s. A recent variation of that standard is called MOST, the Maynard Operation Sequence Technique.

In Rabeneck's experience, the predetermined time measurement technique used most frequently in distribution centers and warehouses is Master Standard Data, which has tables of data specifically developed for warehousing and distribution operations.

"There are many different approaches that can be used," Rabeneck says. "There's no guarantee that any one is more right than any other." The right system depends on how the company wants to use the standards.

10 steps to ELS

Engineered labor standards are a great way to improve operations and increase productivity. Whether you have a system in place, are considering the development of one, or even if you can't justify a full-blown analysis like this one, the following steps provide valuable information that can be used to improve any operation.

1. **Define your goals and objectives.** The first step to establishing sound engineered labor standards is identifying your reasons for having them, according to Rabeneck. Do you want to use the standards for performance management so you can gauge how well employees are doing and hold them accountable? Do you want to use the standards as the basis for incentive compensation systems or for performance-based pay? Do you want to use standards for staffing purposes so you can schedule work accurately? Do you want to use the standards for costing purposes so you know what to charge customers? Do you want to develop engineered labor standards for all labor functions, or just in certain parts of the distribution center? Your answers to questions such as these will help you identify the level of analysis you need to perform to achieve your goals.
2. **Involve the workforce in the process.** One of the major keys to the success of a standards program is involvement of the associates and front-line management, Rabeneck says. "If you don't involve people in the process of implementing standards, things can backfire—and often have." He advises obtaining employee buy-in by sitting down with associates at each step in the process described here.

   Engineered labor standards, which are based on individual performance, can lead to a significant change in operations where performance metrics have historically been done on an overall basis, Hudock points out. Supervisors and front-line workers alike have to be sold on how the engineered labor standards will benefit the company and the individual employee in the long run.
3. **Define the unit of measure to be used.** The unit of measure identifies the different levels of frequency. "Things are done on different levels of frequency," Rabeneck explains. Take order picking, for example. "Some things are done on a per order basis, others are done on a per SKU or per carton basis." The appropriate unit of measure needs to be identified for each task.
4. **Review and document task methods.** Once the observer understands the unit of measure for a task—such as measuring order selection on a per carton basis—the next step is to understand the methods being used by observing different people performing that task. "If there are 100 people selecting cartons in a facility, you might see 30 ways of doing it," Rabeneck says. The observer's goal is to understand the various methods and to identify the best one. These best methods are then analyzed to see if further improvement is possible.
5. **Identify and understand exceptions.** Through discussions with management and the workforce, look for exceptions to the method. This enables you to determine whether the exception should be built into the standard or handled outside the standard.
6. **Measure the task.** Measuring the work content of each task with a stopwatch time study may involve observing 50, 100 or 1,000 occurrences, Rabeneck says, depending on the amount of repetition.

   "With predetermined time systems, you don't need to do thousands of observations if you've defined the best method. If the best method involves walking three steps, bending down, picking up the carton and putting it on the conveyor, you can look at the individual steps that make up the method and plug in the value from a table or the software," according to the industrial engineer.
7. **Validate the standards.** "You've identified the best methods and created times for them," Rabeneck explains. "Now you need to double-check that you didn't forget a work element." Say that you have developed a standard that says order pickers should be able to pick 100 cartons an hour. Validate that standard by randomly identifying associates who are doing that work, watch them perform the task, then compare them to the standard. Track actual performance against the standard for a day, a week or longer, to validate the standard.

   "You're looking for major variations," Rabeneck says. These might be variations in the methods that are used or variations in individual performance. If a standard pick rate is set at 100 cartons per hour, an employee picking 96 cartons an hour is in the ballpark. But somebody who is picking 25 cartons an hour may indicate that either you've missed something in calculating the standard, or that the employee hasn't been trained in how to do the job.

   Discuss the standards with associates and front-line management. For example, discuss order picking methods with a sample of people who fill orders. Ask whether they agree with the methods you've selected and whether there are exceptions to those methods that need to be taken into consideration. Then modify the standards as necessary.

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8 **Implement the standards.** Rabeneck recommends using a phased-in approach to implementing engineered standards. "Select one function and work with the appropriate management team and associates to make sure they understand the standards." Also explain management's goals and objectives for the standards and the techniques that were used to develop the functions. Then train employees in the best method, implement the standards, evaluate the process, and record the lessons learned to be applied when standards are implemented in other areas.

9 **Work with employees.** Train supervisors in coaching skills so they can use the labor standards as a tool for constructive feedback. Supervisors should talk with employees frequently in the beginning, Hudock says. "Don't sit on data for months after you start collecting it and then suddenly give employees a report."

Early on, front-line supervisors need to work closely with employees to make sure they understand the new methods and are following them. If an employee is not reaching the standard, the supervisor should sit down with him or her to discuss performance. In some cases, factors beyond the individual's control—such as material handling equipment that was down—may have prevented the employee from hitting the standard. In other cases, the employee may need coaching and additional training. "You want people performing above the minimum standard," Hudock explains. So build in plenty of time for supervisors to work one-on-one with individual associates.

10 **Maintain the standards.** It's crucial that standards are updated as necessary to reflect changes in methods and to accommodate new tasks. If the standards aren't maintained to reflect the real world of the warehouse, they'll lose credibility and the support of the workforce.

Setting a Standard at The Gap

Fashion retailer The Gap, Inc. believes strongly in the value of engineered labor standards, which have been implemented in some Gap DCs for more than a decade. The retailer has engineered labor standards in place for receiving, stocking, order filling and shipping.

These standards "are our number one means of communication" with warehouse associates, explains Jay Ninah, senior planning engineer for The Gap. Reports on individual and group performance are posted weekly and associates meet with their supervisors on a monthly basis to discuss their performance. As a result, associates always know what level of performance is expected of them and how their individual performance compares to the standard.

Posting individual as well as group performance data keeps with The Gap's open book policy, Ninah says. "It's not there to intimidate anyone, but to share our findings. It also creates an expectation that the standards are correctly set. If 85 percent to 90 percent are achieving the standard, those not meeting the standard can determine whether they're using a method that's not the best one."

The Gap coaches based on its standards. Ninah states, "As we identify lower-performing individuals, we have a structured coaching process," whereby supervisors work with associates on the areas they need to improve.

Associates have an extra push to improve their work, thanks to an incentive program tied to performance. The program was pioneered last year, Ninah says, and is getting a good response from associates. "Instead of giving an across-the-board increase, we give it based on performance," he says.

Global Standards, Local Application

The Gap's distribution network is made up of 18 facilities that range from brand-new warehouses with the latest technology to others that are 20 years old. To make sure that the labor standards are appropriate for each facility, The Gap's central engineering group in Erlanger, Ky., creates global standards. These are then localized to fit each DC by engineers that work in that facility.

Most of The Gap's labor standards are derived largely by using predetermined labor standards from H.B. Maynard Co., Ninah says. They are then validated with stopwatch studies. A handful of standards not included in the predetermined time measures have to be completely developed by the engineering staff.

Standards To Build On

The standards are a key planning and scheduling tool for The Gap, and have proven to be very valuable when setting up new distribution centers. "It gives us a good gauge of how many people we need to hire," Ninah reports. They also use the labor standards to track a new facility's learning curve. "We're able to see how long it takes a new distribution center to get up to speed," he says, "and for associates to learn their jobs."

The standards have proven to be a powerful communication tool for new facilities. The engineering staff develops labor standards for a new DC before it opens. The measures enable associates to "understand what's expected of them, and where they are with respect to where they should be," Ninah says. "We used to expect a six to eight month learning curve. Now, it's about half that."