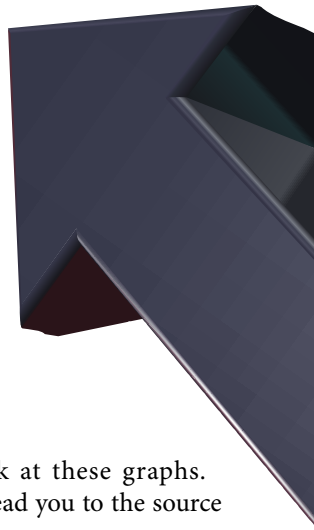
You Cannot Rely on Labor Efficiency Reporting!

Joe Arvin



Now you might be asking, "Joe, are you nuts? What can you possibly mean by that title of your article? The comparison of Labor Efficiency to Standard Times is vitally important." And you would be correct, but stay with me for a minute to explain.

In manufacturing, we all know that tracking statistics on your operation is essential for understanding how you're doing, as well as identifying areas for improvement. But what does the efficiency metric actually tell you?

First, I need to explain the definition of two key terms used in this article: ***Efficiency*** and ***Productivity***.

Efficiency: This is the actual time reported for setup and run times as compared to the standard times for the specific operation being performed.

Productivity: While there are many definitions of productivity, in this instance, productivity is defined in this way. Of the available paid labor hours, what percentage was used for setting up and running the machines. It's important to keep in mind that this definition of productivity has nothing to do with the number of parts produced. Instead it simply lets you know how many hours were used doing productive work (setup and run).

With that said, the following highlights the importance of not just knowing your efficiency to the standard times, but also knowing the productivity — or the hours used doing productive work.

I received a call from Bob, the president of a manufacturing company, who invited me to lunch. About a week later, we got together at a nearby restaurant and had a good conversation, exchanging stories on what was going on in the industry. Afterwards, as we were leaving the restaurant, Bob asked if I might have some extra time that afternoon to visit his plant. To this I said, "That would be fine."

After a quick tour, we returned to his office, where Bob said, "Joe, I've got a perplexing problem. Our profitability has been declining over the past five years. We've been increasing our prices for inflation every year — plus a little more — but no improvement. Here's what has me stumped. Over that period of time, our shop efficiency has increased from 85% to 90%, but still, the profits continue to slide."

Now, this predicament sounded strangely familiar to a lesson I had learned years before when I was the plant manager at Indiana Gear Works. So I asked Bob what was his plant productivity. "It's good," he quickly responded.

I then took a couple of minutes to explain my definitions of efficiency and productivity. Upon hearing this, Bob said, "Based on those definitions, I guess I'm not sure what my productivity is."

Next I asked Bob about the accuracy of his time standards, stating that if the standards were good and efficiency was increasing, then there should be an increase in profitability. By this time, Bob made a couple of phone calls and asked two others to join us — Phil, the Accounting Manager and Bruce, the Engineering Manager.

Once we were joined by Phil and Bruce, Bob asked me to reiterate my definitions of efficiency and productivity, which I did. Their responses were similar to Bob's in that they weren't exactly sure. Then Bruce stated something interesting: "We do have grievances at least once a week for the time standards being too tight."

"Here's what I would suggest you do," I said. "First, plot on a graph the shop efficiency on a monthly basis over the past five years. Next, for the same time period and interval, plot the actual labor hours spent performing setup and running the machines. And finally, plot the number of actual payroll hours consumed by your shop labor, again for the same time period and interval. Then take a close comparative look at these graphs. They might just lead you to the source of your problem."

They agreed to these tasks and Bob said he'd get in touch with me once they had the information compiled.

About a month later, Bob called and said, "Let's have lunch again." During our meeting Bob said, "The reports you suggested showed our efficiency increasing year over year, just as we thought. However, when we looked at the graphs comparing actual labor hours for setup and running the machines with our total payroll hours, there it was — our productivity had indeed declined."

Continuing, Bob said, "So we started digging into the causes of this increase of non-productive work and here's what we found. Since a lot of our older workers have been retiring, we now have many more new people, and our time for training has really gone up. Speaking of new employees, our top process engineer retired a few years ago, and the two new engineers we brought on to replace him still have a lot to learn. This has caused a significant number of production delays as the operators are waiting for answers to their questions on the engineering routings. Finally, our machines are getting older, and when we looked into it, our down-time for machine maintenance has really hit us."

Bob then explained that this had given them a direction for corrective actions. And while the issues of training new people and being equipped with new or retrofitted equipment are challenges for every manufacturer, having them identified and developing a plan for optimizing these barriers is essential for profitability.

Joe Arvin is a veteran of the gear manufacturing industry. After 40 years at Arrow Gear Company, Joe Arvin is now President of Arvin Global Solutions (AGS). AGS offers a full range of consulting services to the manufacturing industry. His website is *www.ArvinGlobalSolutions.com* and he can be reached by email at *ArvinGlobal@Gmail.com.*

So, in view of the metrics of Efficiency and Productivity, consider these guidelines.

- Efficiency UP and Productivity DOWN = You are probably not making more parts because less time is spent running the machines.
- Efficiency UP and Productivity the SAME = You are producing more parts.
- Efficiency UP and Productivity is UP = You should be significantly more productive, by producing more parts per hour in addition to more hours running the machines.

Now you might be thinking, "But Joe, why screw around with data collection on setup and run hours, and the number of actual paid hours for machine operators. Why not just look at efficiency to the time standards and the number of non-productive hours?

Good question and here's why. Let's say the hours worked by the shop changed due to,

- Increase in hours worked due to working over time
- Reduction in hours worked due to a slow down
- Increase in hours worked due to hiring
- Decrease in hours worked due to layoffs

In these instances the number of non-productive hours could go up or down justifiably because there was a change in the number of hours worked. In other words, this could give false impressions about the increase or decrease of non-productive hours. And we all know there will always be a certain amount of non-productive hours.

Using productivity gives you accurate figures regarding the percentage of time spent doing setup and run compared to machine payroll hours - regardless of the fluctuation of total of hours worked.

The moral of the story is this: You cannot just rely on looking at efficiency as compared to your established time standards. You also need to monitor your productivity — the number of payroll hours spent running the machines — because keeping the machines running is the key to profitability.

A Final Word

If you're having a particular problem or if there is a topic you would like to have addressed in this column, please send me an email at ArvinGlobal@Gmail.com. Be assured that any information you provide will be held in the strictest confidence.

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