

# BUSINESS ACTION GUIDE

Leading at the Intersection of People & Profits

## INVEST FOR CONTINUOUS IMPROVEMENT

### Measuring the Return on Investment for Employee Training: Oberg Industries

Companies increasingly realize that cross-trained, fully engaged employees are a competitive advantage. But how much training is needed? And when does training begin to pay off in terms of increased



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revenue for the company? To learn more about measuring return on investment (ROI) for employee training, we spoke with Lou Proviano, former Director of Human Resources, and Neil Ashbaugh, Training and Talent Development Manager at Oberg Industries. Based in Freeport, PA, Oberg manufactures precision components and tooling used by leading manufacturers including several Fortune 500 companies. Oberg serves customers in the aerospace, energy, medical, metal packaging, and consumer/industrial industries. Oberg employs more than 800 people worldwide.

We sell skills – that’s our differentiator. We provide our customers with customized, precision manufactured solutions that you can’t buy in a catalogue. In order to do this, our employees have to be cross-trained and able to operate multiple machines. Oberg has a longstanding focus on continuous improvement, with a training and apprenticeship program going back to the 1970s. In 2001, our company diversified from traditional tool and die stamping to precision machining of components, and so we shifted the apprenticeship program from time-based to competency-based. This allows employees to complete their training more quickly while also giving us more precise knowledge about what each employee can do. Our work is very specialized, so we have job-specific apprenticeships; for example, grinding apprenticeships, stamping apprenticeships, and precision computer numerical controlled (CNC) apprenticeships. These apprenticeships create clear career paths throughout our production spectrum, and people see wage increases as they gain new skills. Our focus now is to spend smart training money – to go after any skills gaps so we can be smarter, more agile, and more efficient. Tracking our training ROI helps us do that. These are some key lessons we learned in the process:

#### 1. Determine the appropriate unit of measurement

Every company has to determine which factor, whether it is related to improving productivity or learning a new process, will have the most impact on the bottom line. Start by partnering with your accounting department to do activity-based accounting. Get the support of company leadership to work with your hard data and stay committed to continuous education. Take small steps and do one piece at a time. If you’re a manufacturer, tracking scrap and rework is a good place to start. Identify one or two variables that are most significant to your business and track them over time, then keep building. When you identify the best

#### OBERG INDUSTRIES FORMULA FOR MEASURING THE RETURN ON INVESTMENT FOR EMPLOYEE TRAINING

1. Determine the appropriate unit of measurement
2. Choose training approaches that drive continuous improvement
3. Gather data with enterprise software
4. Build out slowly and start with a pilot group

apprentices and the best employees, go back and work with them to improve even more. For us, two of the most important factors are the ability of employees to operate multiple machines and the turnaround time for a given product.

#### 2. Choose training approaches that drive continuous improvement

Over the years, we developed an excellent combination of on-the-job and classroom training which results in strong returns on our apprenticeship investments. Every six months we track each apprentice’s time on specific jobs, their productivity (how fast they work on

a machine), and their rating versus other apprentices. We might invest \$250,000 in an apprentice over a three to four year period, and they “earn while they learn.” We can track when we turn the corner and start to make money with an apprentice. Our corporate culture is one of high expectations and continuous improvement, and we can see from the data that people figure out how to do things better. Our tracking is more stringent than others in the industry because we make such a variety of products and our employees have a wide array of skills. Tracking these skills allows our shop leaders to selectively choose what parts and product mixes go to which employees.

### 3. **Gather data with enterprise software**

Our Enterprise Resource Planning (ERP) software system gathers large amounts of real time data on our business using barcodes. We are able to track direct and indirect labor (time spent working directly on producing products versus time spent maintaining machines, for example), total time spent on a job, scrap and rework hours (the lower the better), and attended versus unattended time (the hours in which an apprentice is watching or attending several machines at once). Our ROI models a group of select variables, based on individual skills. For example, we know that an apprentice might be producing one part per hour, compared with an experienced person who can produce 10 parts per hour while also running several machines at the same time. We know what the turnaround time should be for any given product and we always try to meet or exceed those times. Every

time someone touches a part, they are assigned a time, which goes into the bar code system and shows how many hours went into production. Everyone has a different dollar rate so we can track precisely how much it costs to produce a product. We use this data to help each other continuously improve.

### 4. **Build out slowly and start with a pilot group**

We started to measure training ROI in 2001 as a part of our apprenticeship program. During those years we stopped tracking employees’ skills once they moved into production. Then in 2013 our president, Dave Bonvenuto, tasked us with assessing the knowledge, skills, competencies, and attributes of all operations employees, as well as identifying key subject matter experts. The process exposed knowledge gaps, so we work with apprenticeship program training providers to develop new programs for incumbent workers. Our goal is to develop an individual training plan for each employee to maximize their skills and productivity. Over the next six months we’ll enroll people in training and do a “before” and “after” assessment of their knowledge and performance. Some people who have been here many years are hesitant about the assessment so we use the Pittsburgh Pirates baseball team as an example – they’ve had a good year, but they still have to show up at spring training to learn new things. We will give our people opportunities on company time and on the company dime to develop even better skills, and we expect that our turnover will remain low.

## FINAL WORDS OF WISDOM

As we assess the skills of incumbent workers, we find pockets of really skilled people who are not cross-trained. For example, we might find an employee who went through the apprenticeship program and became a great grinder, but can’t be plugged in elsewhere if grinding work is slow. So we’re compiling a cross-training matrix (*see piece on Marlin Steel’s Pay for Skills program for another skills matrix example*) and update it as people learn new skills. The end result will be increased speed and agility for the company, and better-trained, more valuable employees.

**ROI OF APPRENTICESHIPS OVER TIME**

Training time is the percentage of work charged to training versus production. For example, in Group One, Year 2 training time rose by 42 percent over Year 1. With each passing year, training time decreases, with the percentage representing a change from the Year 1 baseline. So in Year 4, Group One charged 45 percent less time to training than in Year 1, while for Group 10 training time decreased by 58 percent compared to Year 1.

Multiple machine time tracks the ability of one operator to run multiple machines, which is very important at Oberg. Both groups vastly increased their ability to run multiple machines over time.

Direct labor utilization tracks the amount of time an apprentice spends performing direct labor versus training, maintenance, or other tasks not directly related to production. ROI represents the return on investment to Oberg for training. By Year 4, Group One apprentices were generating \$96 for each dollar spent on training. The return was even greater for Group 10 apprentices as the program was refined over time.

*(Year 1 is the baseline year)*

| <b>Group One</b>            | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> |
|-----------------------------|---------------|---------------|---------------|
| Training time               | 42%           | 10%           | -45%          |
| Multiple machine time (hrs) | 0             | 621           | 1,230         |
| Direct labor utilization    | -12%          | -2%           | 15%           |
| Return on investment        | -\$62         | -\$13         | \$96          |

  

| <b>Group 10</b>             | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> |
|-----------------------------|---------------|---------------|---------------|
| Training time               | -27%          | -27%          | -58%          |
| Multiple machine time (hrs) | 126           | 0             | 1,714         |
| Direct labor utilization    | 18%           | 20%           | 35%           |
| Return on investment        | \$26          | \$25          | \$137         |

**HOW DO WE LEARN MORE?**

[Precision Metalforming Association: Oberg Industries](#)

[ASTD: Return on Investment \(ROI\) Basics](#)

[Howard Community College: Return on Investment for Customized Training](#)

[Houston Chronicle: How to Calculate ROI for Training](#)

[SkilledUp: How Top Companies Make The ROI Case For Employee Training](#)

[Fortune Magazine: Company training programs: What are they really worth?](#)

[Center for Effective Performance: The Bottom Line on ROI: Basics, Benefits, & Barriers to Measuring Training & Performance Improvement](#)

*Other companies that excel at measuring training ROI include Marlin Steel.*

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