



Productivity: Small Changes Can Lead to Large Gains

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By Ray Morris, Director of Sales Training, Ansell® Protective Products

No one would argue that a high level of productivity is essential to survival in today's competitive manufacturing environment. The question becomes what can a company do to boost productivity? How can we ensure workers and processes operate as efficiently and effectively as possible to compete in a global economy?

Six Sigma focuses on improving process performance to ensure quality productivity and ultimately satisfy customer demands and reduce costs. Quality productivity often hinges on three factors: parts made, worker safety and employee morale.

Parts Made

Many companies measure productivity based on how many finished products meet quality specifications and go out the door. Others gauge productivity by the amount of waste their facility produces.

In the past, employee paychecks were often determined by piecework and how many units a worker produced within a certain period of time. If a house wares manufacturer, for example, decided a worker should be able to attach 33 skillet handles in an hour, the worker who attached 37 handles received a financial bonus.

Piece price jobs still exist but productivity often relies on the efficiency of an entire process. When a portion of the process breaks down, fewer parts are made.

If a facility, for example, does not receive the raw materials needed, employees who work with raw materials will not be able to perform their jobs. The situation will impact other processes down the line and productivity will suffer.

Likewise, failing to provide workers the right hand protection can affect process efficiency and the number of parts made. Assembly line workers at an electronics manufacturing facility used air drills to insert screws into products. Each work station had a bucket of screws and the worker picked the screws up one by one to assemble components.

Because the gloves workers wore failed to provide the dexterity and tactile sensitivity needed, workers dropped dozens of screws each hour in their quest to quickly perform their jobs. The number of screws that fell to the floor was so great the company employed a full time person to sweep them up and return them to the line.

When the company provided workers gloves that improved their ability to grip and handle the screws, process efficiency improved and workers produced more parts. Fewer screws were dropped and the worker who previously swept the floor was assigned a more productive job.

Modern gloves on the market today incorporate technology and performance features to boost worker comfort and productivity. Engineered coatings – such as advanced grip technologies– and roughened surfaces in the palm and fingertips increase grip in dry and oily environments. Fabrics that wick moisture away keep worker hands dry, resulting in greater dexterity and tactile sensitivity – and less chance the worker will drop parts.

Employees performing piece price jobs at an engine manufacturing plant wore thick cotton gloves to assemble engines. While workers perceived the hand protection as comfortable initially, the gloves fit poorly, had a poor grip and failed to protect the hands from oil. Workers often removed the gloves, which led to noncompliance and potential risk.

The company supplied workers more modern hand protection with a foam nitrile coating that channeled oil away from the glove surface, resulting in drier, more comfortable hands. Improved grip and greater dexterity enabled workers to produce more parts while experiencing less hand fatigue.

Safety

Employee confidence and safety are closely linked to productivity. Companies can incur major costs – and significant productivity losses – when workers are injured. Even minor injuries require workers to leave the line and visit the company nurse for treatment.

And, first aid is costly. A window and door manufacturer recorded 759 hand injuries during a single year – most of the injuries requiring first aid. Some employees worked barehanded and others wore gloves that failed to provide adequate protection. The company worked with a glove specialist to conduct a comprehensive internal assessment and based on the resulting recommendations instituted a glove policy mandating that all production employees wear hand protection that matched the job requirements.

Workers began wearing cut and abrasion resistant gloves that provided a higher level of protection and the company trained all employees about which gloves to use for specific tasks. The result was a 77 percent decrease in injuries the first year and a \$101,000 savings in first aid expenses.

More serious injuries may require ambulance transportation to the hospital, with companies responsible for medical, insurance and workers' compensation costs.

Lengthy employee absences often lead to companies replacing experienced laborers with temporary workers. These individuals usually need training and still are unable to perform tasks with the same accuracy and speed as the injured employee.

Providing workers the right hand protection to prevent injury may seem like an insignificant change but may result in significant cost savings. Injuries at a tire manufacturer surpassed \$1 million annually when the plant worked with a hand protection specialist to conduct an internal assessment to determine how and why injuries occurred.

Workers had used the same hand protection products for 20 years and once modern hand protection was provided based on assessment results, the facility implemented a training program to introduce the new gloves, explain why they were necessary and educate workers about how they should be used. The plant's efforts resulted in a \$500,000 savings in injury costs during the first year.

Employee Morale

Safe workers are confident workers who feel good about their jobs because they believe the employer cares enough to provide them optimum protection for the job. Employees who do not feel they are safe often work more slowly, which impacts process efficiency and the number of parts made.

The window and door manufacturer mentioned earlier reported significantly improved employee morale and productivity after instituting its new glove policy and providing workers gloves with adequate cut and abrasion protection. Employees were satisfied with their jobs and worked quickly and confidently because they believed they were properly protected.

Studies confirm companies with safe, confident workers also have a lower rate of employee absenteeism and turnover.

Internal Assessment

Most companies fail to measure the financial impact of employee downtime on productivity. They realize when employees leave the line productivity – and profitability – suffer. But, companies seldom attach a price tag to downtime resulting from injuries, dropped parts, donning and removing PPE, etc.

A personal protective equipment (PPE) assessment such as Ansell Guardian® can pinpoint opportunities to improve process efficiency and reduce waste while identifying best practices. A PPE assessment conducted at an appliance manufacturer addressed a problem with “fish eyes” developing on appliance parts where newly applied paint would not properly adhere.

The PPE assessment determined the dilemma resulted from the silicone content in employee gloves. The plant eliminated the problem by supplying employees with silicone-free hand protection.

A major food processor made headlines when employees sued for lost wages covering the time required to don and remove protective clothing and safety gear, and the time required to walk to and from their work stations. After conducting a PPE assessment, the company was able to reduce employee time to don PPE from four to two minutes by changing the layout of the gowning area so individuals moved in and out of the area more efficiently.

While this amount of time seems miniscule, it resulted in considerable savings when multiplied by thousands of workers and multiple plant locations.

A PPE assessment should also include benchmarks to measure return on investment after changes are implemented. Some companies that conducted assessments with benchmarks, implemented changes and conducted follow-up evaluations discovered they increased productivity up to 30 percent.

Summary

Productivity often hinges on workers' ability to perform their jobs without worrying about injury. An internal assessment can help companies determine the reason for injuries that slow employees, stall processes and result in escalating medical and indemnity costs.

Implementing recommended changes and training employees to encourage their acceptance and use of new equipment can go a long way in reducing injuries and related costs and boosting productivity.

For more information about the benefits of a PPE assessment and how to increase productivity, visit www.ansellguardian.com.

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