MANUFACTURING PRODUCTION WORKER SAFETY PROJECT

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Introduction

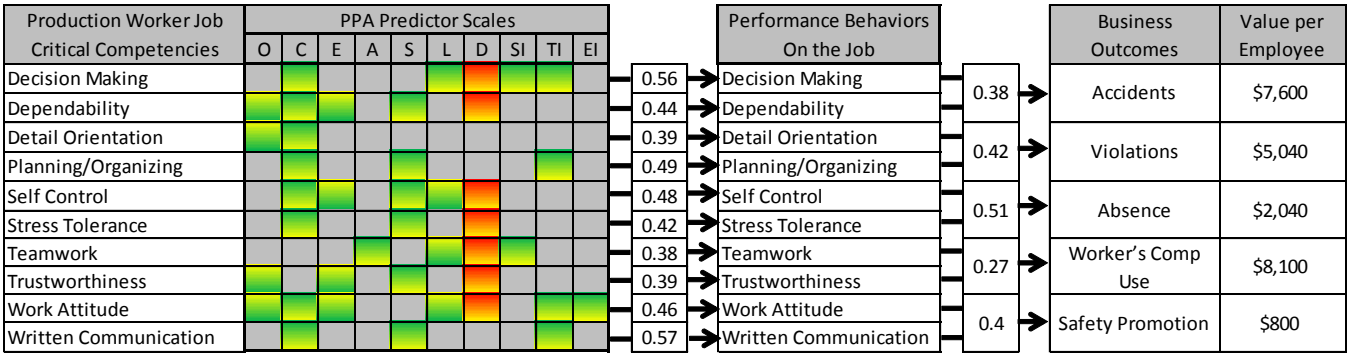
Safety in manufacturing plants has a major impact on the business' bottom line. Direct costs from accidents include increased workers' compensation payments, medical expenses, and costs for legal services. Indirect costs include training replacement employees, accident investigation, implementation of corrective measures, lost productivity, repairs of damaged equipment and property, administrative expense; low employee morale and increased absenteeism; poor customer and community relations. The estimated total impact per worker of safety-related behaviors on business outcomes across manufacturers averages +/- $32,750 annually. Selecting workers with high probability to behave safely and low probability to engage in risky behaviors improves outcomes for employees and manufacturing businesses. PointLeader has demonstrated this outcome for manufacturing by applying predictive analytics to improve safety through machine operator selection.

Methods

Two hundred and fifty hourly production workers representative of the workforce were selected for participation by management from three Michelin Tire plants in Canada. A job analysis using the PointLeader Competency Profiler was conducted with 16 subject matter experts from the three plants to identify a competency profile for the production worker job. The PointLeader Predictive Assessment (PPA) was used to assess the 250 production workers. Data from safety ratings, safety risk, promotion of safety, violations, safety related absence, and use of worker's compensation insurance were analyzed within the predictive model.

Results

Final parameter values and average business outcomes per selected employee are presented below.



Discussion

Sufficient evidence of fairness and predictive validity of the PPA for machine operator selection were found in this project to support and defend its use for the businesses. Based on actual values of outcomes per employee, the PPA predicted average differences in safety related outcomes of $23,580 per employee per year. Addition of the PPM to the predictive model for directing employee behaviors increases outcomes by an average of 22%.