WAREHOUSE LOGISTICS & DISTRIBUTION TEAM SELECTION PROJECT

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Introduction

Warehouse logistics and distribution is critical to the success of transportation, manufacturing and retail businesses. Approximately 2 million workers, including Material Handlers, Shipping and Receiving Specialists, and Warehouse Workers, receive an average of $15.00 per hour; with labor averaging 50% - 70% percent of warehousing budgets. The biggest problems faced with a warehouse workforce are: a) turnover, b) productivity, c) quality, d) technology training, d) safety, and, e) teamwork. The average annual impact per warehouse employee on the bottom line for a business totals +/- $54,400 annually. By selecting workers with highest probability for success and lowest probability for risk, this impact is optimized. To demonstrate the effect of PPA use on target business outcomes for warehousing, PointLeader conducted a series of predictive analytics projects across a seven year period for warehouse worker selection into three businesses.

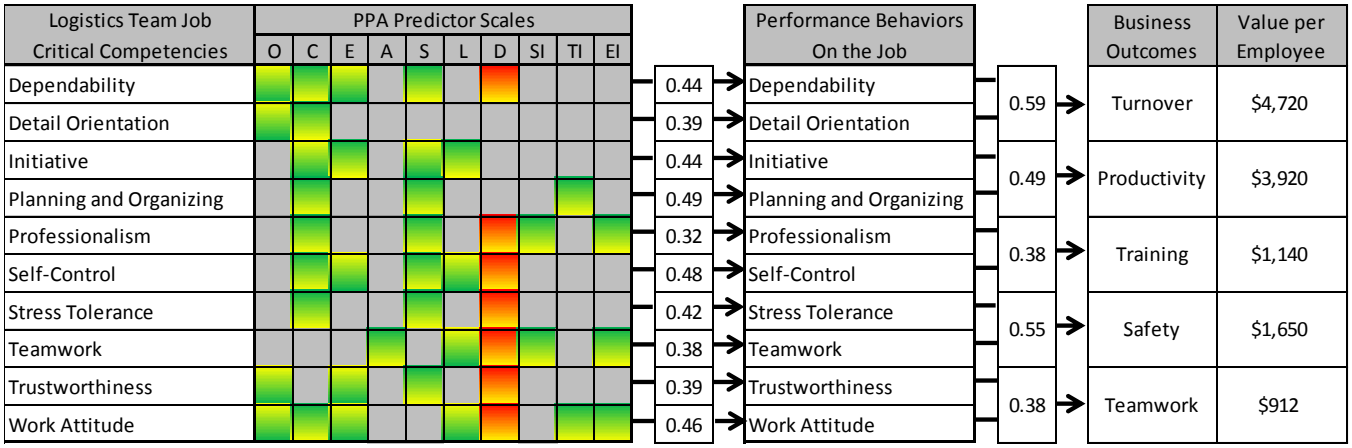
Methods

PointLeader conducted job analyses of warehouse logistics and distribution team jobs for three clients in manufacturing, retail and food service businesses using the PointLeader Competency Profiler with 127 subject matter experts. Based on the results, the ten most critical competencies for success were identified for each job; these were reviewed and synthesized with O*NET results. Predictor scales for selection were validated based on synthetic and local validation methods. Parameter values from these sources were used as starting values in the predictive model (below). The PointLeader Predictive Assessment (PPA) was administered to 7,522 qualified applicants to select 306 warehouse workers over the seven year period. The Pointleader Performance Measure (PPM) was used with workers to direct job-related behaviors. Data for employment status, productivity/quality, training time, accident rate, and teamwork success for workers were analyzed with PointLeader data monthly and annually for each of the three businesses. Business outcomes were optimized while controlling for adverse impact as the parameters in the model learned from, and adjusted to, incoming employee and outcome data.

Results

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

Predictive Model of Warehouse Logistics and Distribution Team Member Impact on Business Outcomes



Discussion

Sufficient evidence of fairness and predictive validity of the PPA for warehouse worker selection were found in this project to support and defend its use for the businesses. Based on actual dollar amounts from the businesses, use of the PPA and PPM improved their bottom lines on average per employee by $12,342 annually for a return on investment of $46.17 for each $1 of costs to use PointLeader Predictive Analytics for selection.