

# ROI STUDY

## Hiring for a Stronger Workforce

For an Organization in the  
Production and Manufacturing  
Industry



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- BUSINESS DRIVEN BY SCIENCE -

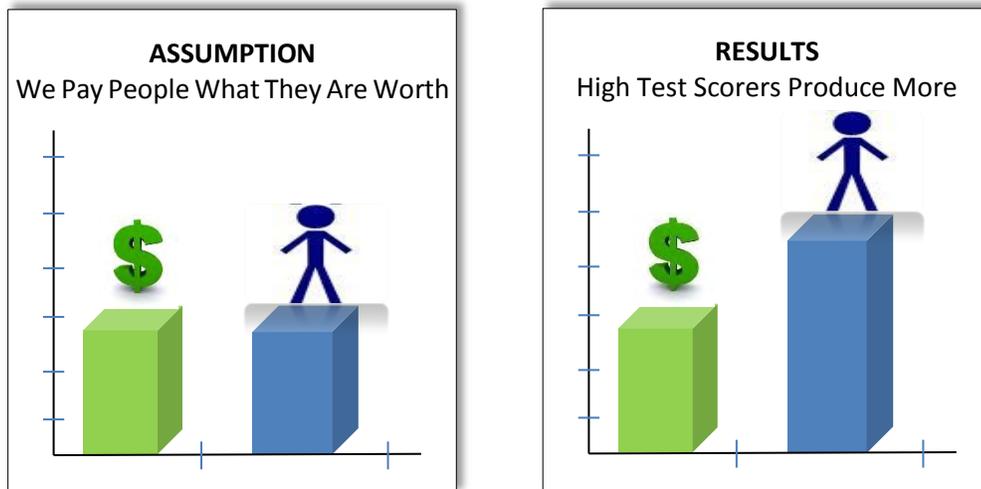
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**Exceptional Value in Pre-Employment Testing with the WSP<sup>®</sup>/E -- April 2013**

The *Work Styles Predictor* (WSP<sup>®</sup>/E), for non-supervisory employees, measures core competencies that are important in most manufacturing or production jobs, such as *Dependability*, *Team Orientation*, *Learning and Problem Solving*, and *Safety Focus*. Additionally, each WSP<sup>®</sup>/E report includes a structured behaviorally-based interview guide tailored to the applicant's responses on the 76-item test. A large scale criterion validation study was conducted in a multi-plant manufacturing company. The average correlation between the WSP<sup>®</sup>/E and job performance was .22, falling in the range of most professionally developed pre-employment tests. This number suggests that this instrument can identify those applicants who are more likely to be successful on the job. Next, we followed the validation study with a utility analysis.

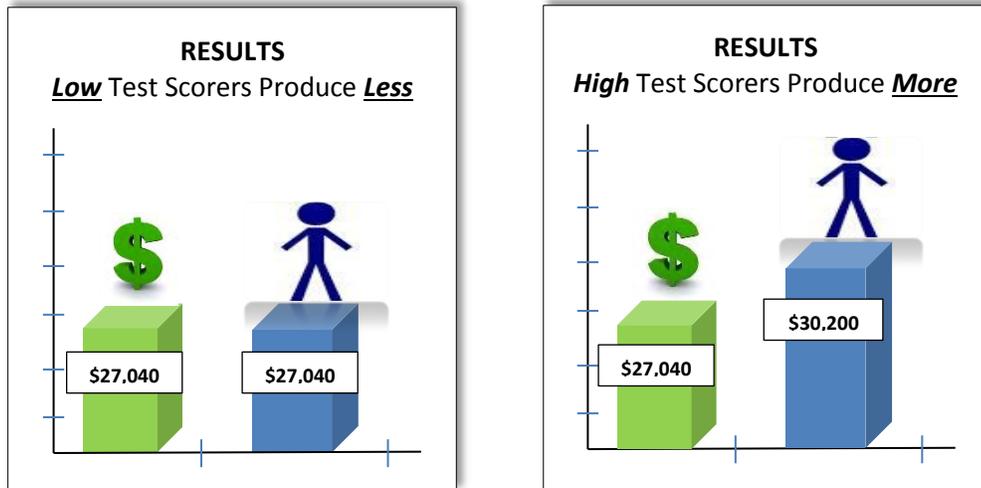


**Utility analysis** measures the return on investment (ROI) for a selection test. This analysis yields a dollar value that indicates how much money will be gained if a particular test is used for selection. In order to accurately assess the ROI, we considered the salary for the position (\$13 per hour), how much it costs to administer the selection test (\$40), and the relationship between the test and job performance ( $r_{xy} = .22$ ).



The effectiveness of the test was assessed with a sample of current employees from a multi-plant manufacturing organization. The test was significantly related to job performance. Based on the information obtained from this organization and using a conservative estimate of an hourly (U.S.) wage of \$13.00, a utility analysis was conducted for the WSP<sup>®</sup>/E.

The analysis revealed that if the manufacturing company only hired the *top scoring applicants*, they would realize **an increase in productivity on the average of \$3,160 per hire** in the first year of employment. This indicates that *top scoring applicants* are 12% more productive than lower scoring applicants. This estimate was obtained using a conservative test cost of \$40 per applicant.



$$UA = [N_s * r_{xy} * SD_y * (\lambda / SR)] - C$$

- $N_s$  = number of applicants selected
- $r_{xy}$  = relationship between test and performance
- $SD_y$  = standard deviation of performance – expressed in wages
- $\lambda$  = standardized value of the minimum acceptable score on the test
- SR = selection ratio
- C = cost of testing per person

- Assume applicants selected: **1**
- Relationship between **WSP<sup>®</sup>/E** & performance:  $r = 0.22$
- Conservative estimated salary: **\$27,040**
- Standard deviation of performance – expressed in wages: **\$10,400**
- Standardized value of minimum acceptable score on the test: **.2661**
- The selection ratio: **.18** (or one hire out of 5.56 applicants)
- Test administration costs: **\$222**



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