Validating the Human Capital ROI Scorecard

A Comparison of Results from Three Impact Methods

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Contents

Validation Statement

To drive results, organizational leaders increasingly demand to see metrics and measures of success. The activities needed to document and measure an initiative's outcomes are time-consuming, but they ensure continued budgetary and organizational support. Guidance in selecting the most cost-effective and efficient measures that demonstrate value can tremendously help organizations continue the focus on metrics. Our research offers valuable information in the domain of training evaluation.

Traditional training evaluation approaches (e.g., Kirkpatrick's four levels of evaluation) recommend going through all four stages of evaluation to determine if the training was effective. Data collection for the different evaluation levels often takes a long time and involves multiple sources. Although this methodology's information on training impact is accurate, the results are often obtained long after the training takes place, with little opportunity to remedy the past. However, highly predictive information on training impact that is collected before or shortly after the training occurs can be invaluable to training leaders. They can use it to make decisions about the continuance of the training event. Our study assesses the amount of convergence in the findings across the training evaluation levels, so a single metric could be used to understand the training's outcomes, even when time and resources are constrained.

We gathered data from three separate sources to understand the improvements associated with a particular program. By keeping the training program constant, training leaders were able to compare and contrast the results from the three sources and observe the consistency in findings. The study revealed that the computed magnitude of improvement using a consistent method for isolating, estimating, and adjusting was stable (average = 12.21%) across the three

studies. These findings lend support to the methods used by the Metrics That Matter™ methodology.

Training researchers have also been interested in understanding if there is convergence in the training impact data across the four levels of training evaluation proposed by Kirkpatrick.

Meta-analytic studies investigating this question (statistical approach to comparing and aggregating findings across a large number of studies on the same topic) show that post-training surveys that assess level of satisfaction with the training do not correlate highly with the job impact of the training.[1] However, post-training surveys that assess the relevance and utility of the training are more likely to correlate with job impact (extent to which the training influenced activities on the job). One might conclude from these results that under constrained situations, if organizations were to only do a post-training survey on the utility of the training, organizations can get predictive data on the extent to which the training is likely to influence job performance.

This study's findings are consistent with those obtained by the meta-analytic studies. The description of the survey used in Phase III of our study appears to be geared toward capturing the perceived utility of the training. In addition, the findings of Phase III are very similar to those obtained in Phase I, which involved analysis based on data collected from multiple sources (thus reducing bias) and in-depth statistical analyses. The results of Phase II, although similar to Phase I and Phase III, deviates to a small degree. It is most likely due to the small sample of managers used in this phase of the study. Using a larger sample is often cost and time prohibitive but leads to more robust findings.

Critics might argue that the findings of this study are based on a single training program and one organization and thus may not generalize or be applicable across other training programs and organizations. Additional studies are required to confirm if the data yielded from post-training satisfaction surveys are indeed similar to the results from the in-depth managerial interviews.

In conclusion, based on review of the analysis, data from this study seems to suggest minimal variations in findings between in-depth statistical measurement exercises, supervisory interviews based on past observations, and using predictive data collection instruments with indicators of impact. These findings are consistent with meta-analytic studies on training evaluation, thus suggesting that our methodology is a reasonable way of measuring training quality and impact.

About the author

Shreya Sarkar-Barney, PhD is manager of Training and Organizational Effectiveness at Dendrite International, where she is responsible for managing global training. Dr. Sarkar-Barney previously held the position of assistant professor of Industrial and Organizational Psychology at Illinois Institute of Psychology. She has conducted research on global training practices and training effectiveness with samples from more than 50 countries. She has published articles and book chapters and presented at various conferences. Dr. Sarkar-Barney has also consulted with organizations such as Fidelity Investments, Lucent Technologies, and Microsoft to measure and improve training outcomes.

The Human Capital ROI Scorecard Methodology

The Human Capital ROI Scorecard has been an extremely popular and useful tool as part of the Metrics That Matter™ enterprise solution.The scorecard has several advantages over more traditional forms of ROI analysis in that it is cost- and resource-effective to measure, is scalable and replicable across all learning classes, courses, curricula, and programs, and is benchmarkable for both internal and external comparisons.

The scorecard is based on the underlying assumptions from which it operates. The key is deriving a monetized benefit from training. The Human Capital ROI model derives this benefit by linking it to the known monetary value that is placed on human capital, an employee's salary. In essence, the Benefit-Cost Ratio is determined based on the improvement in an employee's job performance, quantified by the employee's salary, relative to the cost of training that employee.

For example: if an employee buys a computer for $3,000, the expectation is that the company will get at least $3,000 of value out of the computer. The computer may help a salesperson increase sales or help a plant floor operator increase quality, but the goal is to improve the user's job performance through technology. The expectation is that at least $3,000 will be of benefit in exchange for paying a cost of $3,000 to acquire the computer.

Say the IT department added a $500 upgrade to the computer. The upgrade is intended to make the machine faster, more resistant to bugs, and more accurate in its computations. The business result is more productive employees, a higher-quality computer, and reduced cycle time for a user of the computer. The expectation is that the $500 spent on improving the computer will result in at least $500 returned in various benefits through increasing the performance of that $3,000 computer. The upgrade improves the computer's performance and its impact on business results.

Let's put this in the perspective of an employee (i.e., human capital). If the fully loaded salary (wages, benefits, and overtime) of a newly hired employee is $50,000, the organization paying that expense expects at least $50,000 of value from the employee. This value could come from his or her contributions in one or more key business objectives, such as sales, quality, productivity, cycle time, customer satisfaction, etc. But, in general, the organization expects a return of at least $50,000 from that employee.

We use training to upgrade our people just as we add components to a computer to upgrade technology. Training and organizational development are proven tools to add knowledge and skills to our workforce. So, if an employee goes to a $1,000 training event, the goal is that the employee will use the training to help improve various business results back on the job. Such results include stronger sales, quality, customer satisfaction, and productivity. The expectation is that the $1,000 spent on the training will result in at least $1,000 returned in various benefits.

The basic premise is that the $1,000 training improves performance through the trained employee. In that sense, the employee's total post-training improvement can be expressed through the employee's associated value, or salary. Simply put, if the employee is worth at least $50,000 to the company, a 10% increase in that employee's job performance would translate into a business result increase for the company of approximately $5,000. This is, in a nutshell, how the Human Capital ROI methodology works. The Human Capitol ROI model uses reasonable assumptions based on industry-proven

principles and methodologies. The guiding principles of the model are based on elements that Dr. Jack Phillips, the industry ROI guru, refers to as estimation, isolation, and adjustment. These are the cornerstones to monetizing a benefit (the numerator in our ROI equation) and linking it to training.

These principles are applied as students are asked to estimate the overall improvement (either expected or realized) in their job performance based on all relevant factors, including, but not limited to, the training. This constitutes the estimation of performance improvement. Students then isolate the direct effect the training alone has (or has had) on the reported performance improvement. Lastly, this value must be adjusted based on a proven adjustment factor, which introduces a level of increased accuracy and prudent conservatism in the resulting ROI.

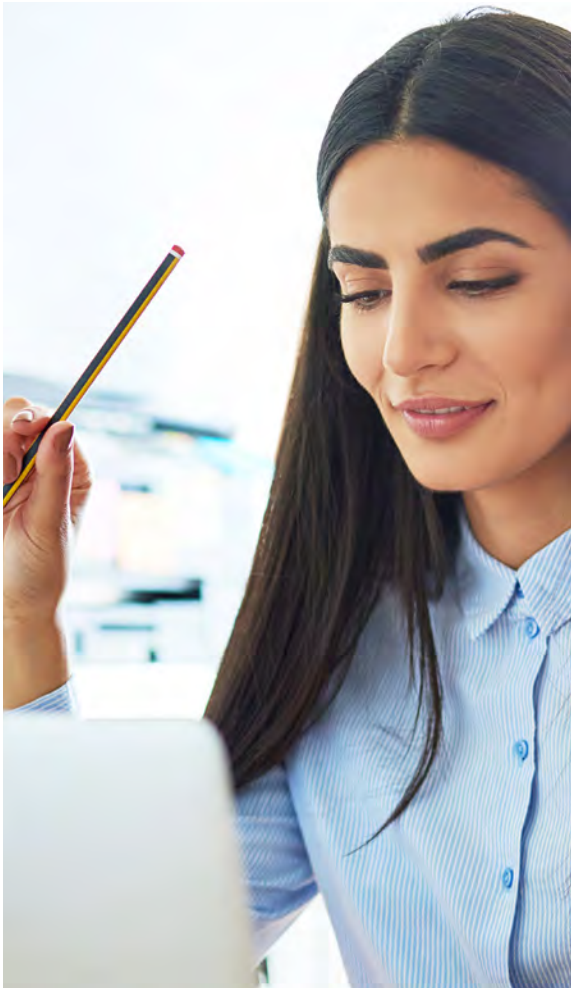
This estimation process may be calculated at up to three points during the measurement process:

1. Immediately after training: Estimated Performance Improvement (EPI)

2. A designated amount of time after training, such as 60 days, to understand on the job application: Reported Performance Improvement

3. The learner's manager's assessment of the learner's change in job performance, captured from the manager at the same time interval as the learner's on the job follow up survey: Manager Reported Performance Improvement.

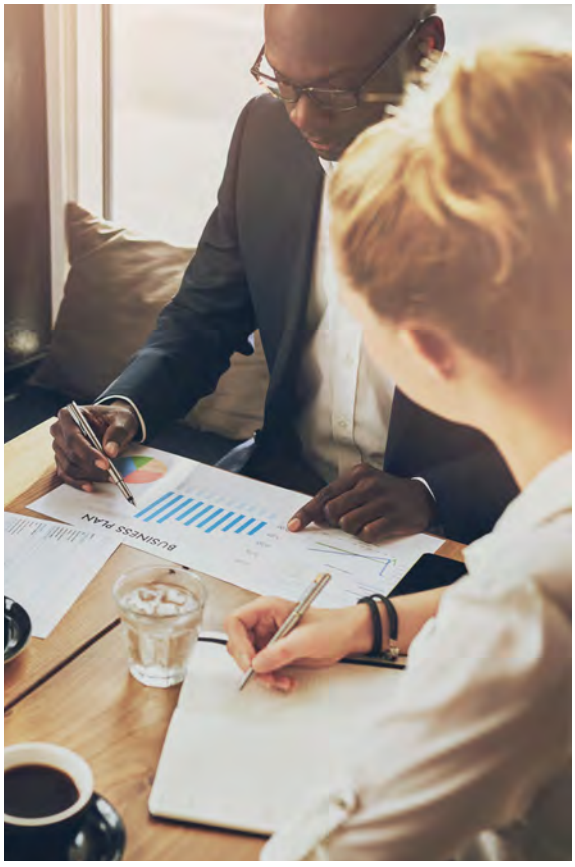
The methodology used by the Metrics That Matter (MTM) learning analytics solution includes these measures in addition to reasonable indicators of Dr. Donald Kirkpatrick's Levels I-IV. MTM reports and dashboards automatically compute the job performance change measures above and combine them with training cost and employee salary values to yield a Benefit to Cost Ratio, and the Human Capital ROI is thus easily calculated.



Testing the Model

The Human Capital ROI Model is based on sound methodology, using established industry principles. An important test of this model is how its results compare when data is collected through different means.

In the Metrics That Matter framework, the Human Capital ROI Model is calculated based on self-reported survey data. This survey data may take the form of post-event (end of training) surveys collected soon after the conclusion of training, a follow-up survey given 60–90 days after the training, and/or a manager survey that is also given sometime after the training has been completed. Due to the general prevalence of post-event survey data in the Metrics That Matter database, most application of the Human Capital ROI Model is with data collected through post-event surveys.



An important question arises regarding the robustness of the Human Capital ROI model. Do results (based on the application of this model to post-event survey data) fall in line with other, more traditional and accepted sources of data? This was tested using the post-event survey data against a performance ratings statistical analysis and a managerial phone-based interview analysis for a specific training course administered to employees of a single company. Application of the Human Capital ROI model to each data source appears to provide similar results, which lends credence to the use of post-event survey data in the ROI model's calculation.

Of our many clients, a particular company provided a unique opportunity to test the use of self-reported survey data in calculating a Human Capital ROI and also to assess the stability of this model across various data sources. This client had implemented a very visible and strategic training initiative; hence, results were measured through the Metrics That Matter framework and also through a two-phase in-depth analysis.

The following sections will describe the training program itself, the data sources for this comparison (the two phases of in-depth analysis and the Metrics That Matter surveys), and how the data was used to compute a Human Capital ROI. The results of the comparison will then be presented.

The Training Program

The training program that forms the basis for all data presented here involved advanced marketing training for managerial-level employees at a large technology company. The training program centered on eight key marketing competencies, which were developed through attendance to one or more of four specific training courses. Attendance to these programs was somewhat exclusive; employees were nominated for the training by their supervisors, and employees generally viewed this nomination as a significant reward. The course— which was developed and delivered by a top-ranked US business school—included instructor-led, classroom-based learning.

The technology company invested a lot of money in training these employees. This highly visible, costly, and strategic program budgeted for measurement and impact analysis due to its importance to the organization. The three phases of analysis described on the following pages document the depth required to validate the training investment against tangible performance results.

Method

For this comparison, a Human Capital ROI was calculated for each phase of analysis. Each phase will be discussed in detail below. The resulting Human Capital ROI percentages, and their accompanying figures, are compared to evaluate the stability of results across data sources. The underlying method of computing the Human Capital ROI does not differ between phases or data sources.

Phase I: Performance Ratings Statistical Analysis

Training participation was linked to performance reviews as part of an impact study. Phase I statistical analysis consisted of a control-group design, comparing the change in competency-based performance ratings for a sample of employees who participated in the training program to a sample of those who did not. The behavioral competencies rated were the same competencies that were developed through the training program. The key to this study was whether participation in the training program improved competency-based performance behaviors and results.

The analysis of Phase I was an in-depth exercise using actual performance data that spanned multiple years of performance ratings (stock ratings and review ratings) for both the trained group and a non-trained group (i.e., control group). A variety of statistical techniques—such as analysis of variance, analysis of covariance, and regression—were used to analyze the multi-year dataset. The purpose was to determine the training's impact on the performance ratings.

The conclusion of the analysis was that a statistical correlation did exist between training and performance ratings for the majority of the competencies under review in the analysis.

The results of this analysis were readily adaptable to the Human Capital ROI model. The percent improvement in performance was a key output of the Phase I analysis. Hence, the estimation piece of the equation was readily available. Isolation was also available due to the control-group design of this analysis. By comparing the percent improvement in performance on the competencies of the training group to the control group, an isolation factor, or percentage improvement due to training, was easily obtainable. All that was left was the application of our standard adjustment percentage (a 35% reduction), and the computation of a Benefit-Cost Ratio and Human Capital ROI percentage is at hand. The resulting percentage improvement due to training was 11.43% for Phase I, and the adjusted percentage improvement due to training was 7.37%.

Phase II: Interviewing the Managers

For the Phase II analysis, a small but representative sample of trained employees' managers was interviewed to determine their perception of the training impact on competency-based performance ratings. The managers needed to have had significant and direct supervisory responsibility over the trained employee for at (least several) months both before and after the employee was trained in order to be a candidate for the manager interview.

Managers were asked to estimate the percent increase in competency-based performance since the employee in question completed training. Next, managers were asked to isolate the effect of the training on this performance improvement apart from all other factors that could influence performance. Finally, instead of applying the standard adjustment factor,

managers were asked to provide their confidence level, as a percentage, in order to properly adjust the percent increase in performance due to training.

The analysis of Phase II was also in-depth. The interviewer spent 45 minutes to one hour with each manager reviewing the responses and ensuring they were reasonable given the manager's knowledge of his or her business and observation of his or her employee. The goal of this phase of the research was similar to Phase I in that it was to validate the effect training has on performance ratings. It was meant to complement and augment the Phase I analysis.

The conclusion of this analysis was similar to Phase I in that the manager's observations provided validation that the trained employee had improved in his or her performance relative to the majority of the marketing competencies. For Phase II, the percent improvement due to training was 13.70%, and the adjusted percentage improvement due to training was 8.03%.

Again, the results of this analysis were readily adaptable to calculating a Human Capital ROI. All that was left was to monetize the adjusted performance improvement due to training. See Table 1 for the comparison of this analysis to the Human Capital ROI Model.

Phase III: Metrics That Matter™ Post-Event Surveys

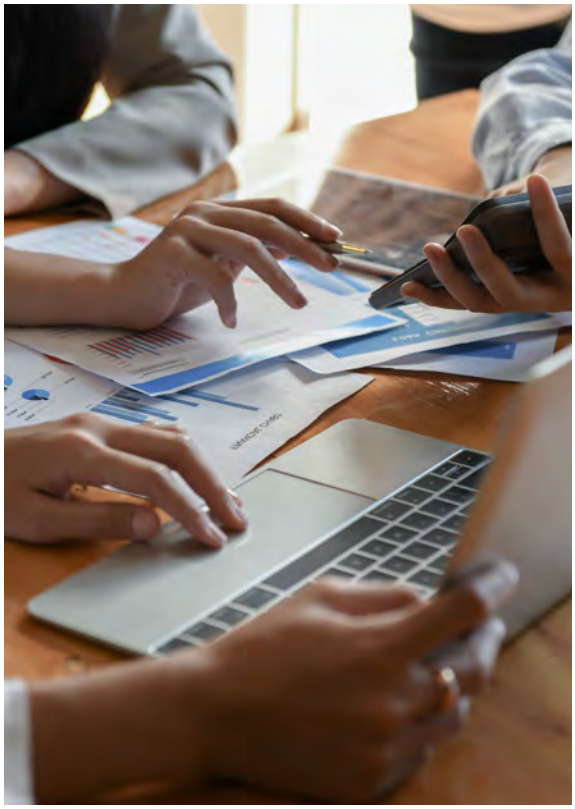
The company knew that Phase I and Phase II analyses could not be done in a scalable manner for all employees going through this marketing program in the future. To ensure the legacy of the measurement analysis left behind a practical approach to measurement yielding similar results, the company deployed a series of Metrics That Matter™ surveys.

The survey approach captured data from participants at the end of training (post-event survey). These survey instruments mapped to Donald Kirkpatrick's four levels of learning evaluation and Jack Phillips's fifth-level ROI. The instruments were designed not only to capture a learner's perception of satisfaction (Level 1) and knowledge transfer (Level 2) but also to forecast the change in job performance, business results, and estimates of ROI and perceived value (Levels 3–5). The Metrics That Matter learning analytics technology aggregates the data and then computes a financial ROI based on the improvement in human capital isolated to the training, adjusted for self-reported bias.

The surveys were sent via e-mail immediately after the training interventions. Participants completed the surveys in under 10 minutes. The data was then centrally stored in a secure environment and processed according to the appropriate queries that were based on industry-accepted techniques (estimation, isolation, adjustment) to report several performance-based "ROI indicators."

Phase III analysis, unlike Phase I and II, was not resource intensive. Participants were very used to completing end-of-class evaluations, and these evaluations took the same amount of time as previous ones that the participants had already completed (e.g., "smile sheets"). Yet these surveys had richer data for analysis beyond Level I–Reaction, and the resources (financial, physical, and human) to yield the results of the analysis were significantly less than in Phases I and II.

The conclusion of this analysis was similar to Phase I and II from a macro perspective in that overall performance was determined to have increased relative to the training. For Phase III, the resulting percent improvement due to training was 11.5%, and the adjusted percent improvement due to training was 7.47%.



Comparing Human Capital ROI Results

A consistent standard was used to monetize the adjusted percent increase in performance due to training. As the training program included participants at different job levels and pay grades, and the samples used in the Phase I and II analyses and the survey-based Metrics That Matter™ data did not include the exact same trainees, a consistent salary and cost figure was used for each data source in computing the Human Capital ROI. For this comparison, the Metrics That Matter default of $50,000 average salary and $1,000 average cost was used.

In addition, the post-event surveys did not account for competency-level information. Because of this, the results of Phase I and Phase II were averaged across competencies to provide a single Human Capital ROI, as it was not possible to assess this by competency in Metrics That Matter due to this information not being included in the surveys.

The adjusted percent improvement due to training, as provided through each of the data sources, and the resulting Benefit-Cost Ratio and Human Capital ROI are provided in Table 1.

As the table shows, the results are very similar, demonstrating that the Human Capital ROI methodology is robust and consistent regardless of the data source available for the analysis. It is worth repeating that these results are based on three different sources of data regarding the impact of one training program within one large technology company.

These results provide two key insights. The first is that Human Capital ROI figures based on survey data, as provided by Metrics That Matter, align with results based on more time-consuming and resource-intensive data collection methods. Second, the Human Capital ROI methodology has demonstrated itself to be a consistent and reasonable approach to determining the monetary impact of training programs. The fact that results are not biased based on data source and collection methodology further supports the validity of this approach.

Data Source	% Improvement Due to Training	Adjusted % Improvement Due to Training	Benefit-Cost Ratio	Human Capital ROI
Phase I: Statistical Analysis	11.43%	7.37%	3.69:1	269%
Phase II: Interviews	13.70%	8.03%	4.02:1	302%
Phase III: Metrics That Matter Post-Event Surveys	11.50%	7.47%	3.74:1	274%

Table 1. Human Capital ROI Across Data Sources

Sources

[1] G.M. Alliger, S.I. Tannenbaum, W. Bennett, Jr., H. Traver, and A. Shotland, "A Meta-Analysis of the Relations Among Training Criteria," Personnel Psychology 50 (1997): 341-358.

[2] Jack J. Phillips, Return on Investment in Training and Performance Improvement Programs (Houston: Gulf Publishing, 1997).

About Explorance

Explorance is a Journey Analytics provider that empowers organizations in making the right decisions with fact-based feedback data. Through its main offerings Blue and Metrics That Matter, Explorance is at the heart of the learning organization's continuous improvement strategy.

Founded in 2003, Explorance is headquartered in Montreal with business units in Melbourne, Amsterdam, and Chicago. Since 2014, Explorance has been consecutively ranked as a top employer by the Great Places to Work Institute® in Canada. Explorance clients include a wide variety of learning organizations from various segments including academia, enterprise, consulting, and government across the globe.

Contact us to Learn More

Phone
+1-800-561-3341 or +1-312-676-4400

Email
info@explorance.com

Web
www.explorance.com


explorance.