ROI on a shoe-string: strategies for resource-constrained environments

Holly Burkett

Measuring more with less (part II)

Holly Burkett

Abstract
Purpose – Despite heightened interest in return on investment (ROI) and increased accountability for training professionals to prove their bottom-line organizational value, many practitioners are deterred from comprehensive measurement and ROI evaluation due to concerns about the cost, time, and human resources necessary to fully implement the process. This article, the second in a two part series, aims to present best practice, cost savings approaches for developing a credible, economical ROI strategy.

Design/methodology/approach – A systemic approach to measuring training’s impact begins with an evaluation framework. For purposes of this article, Phillips’ (1997) five-level framework for capturing the financial impact of training programs was referenced. Based upon over 20 years of research and global applications, Phillips’ ROI model also includes techniques for isolating the impact of other variables, besides training, upon performance improvement.

Findings – Many organizations around the globe are using cost-saving approaches so they can begin conducting ROI evaluation within their current budget while others use cost-saving approaches in order to increase the number of ROI studies they conduct. The ten cost saving approaches for measuring programs at the ROI level have been proven to significantly decrease resource requirements while still providing sound, credible data. Despite these factors, establishing an evaluation culture is no easy task. In many ways, implementing a system-wide ROI effort is similar to implementing a large-scale change initiative.

Practical implications – Practical application of these cost-saving approaches allows the resource-constrained training function to present their work in terms of financial benefits that leaders understand and have come to expect. It is a vital step in establishing business partnerships that will enhance commitment for training programs, products, and services going forward.

Originality/value – By evaluating training programs with the ROI in mind, training functions can be perceived in a more credible light. Programs aligned with organizational strategy are offered, while others that add little value are redesigned and sometimes eliminated. Trainers, designers and developers can use the findings of an ROI evaluation to increase training alignment with business needs and to improve the efficiency of the training design, development, and delivery life cycle.

Keywords Training evaluation, Return on investment, Training management, Workplace learning

Paper type Conceptual paper

Introduction

The training and development field has continued to evolve at an accelerated pace with increased pressure for training professionals to measure their success and show the return on investment of their programs and processes. When citing key competencies for the profession, the 2004 ASTD Competency Study states that the seismic shift from training to performance improvement requires today’s trainers – or workplace learning and performance (WLP) professionals – to “drive results” through business acumen and
strategic thinking. According to the study, “essential” WLP skills during the next three years are, “first and foremost”, to effectively link learning and performance to an organization’s overall strategy and second, to substantiate the payback for training efforts in the form of improved business results.

For practitioners who must show training’s bottom line value in business environments with limited time, money, and resources, there are unique challenges to demonstrating training’s impact. In addition to such organizational constraints, many practitioners are deterred from comprehensive measurement and ROI evaluation due to false assumptions about the process and how to implement it. This article is part 2 of a two-part series in which ten best practice, cost savings approaches for developing a credible, economical ROI strategy are provided. Part 1 provided the groundwork for ROI implementation by describing an evaluation framework for measuring training effectiveness across multiple levels and presenting practical application of five cost savings approaches.

Part 2 continues by describing five additional shoestring strategies, along with guidelines for integrating and sustaining a measurement culture for training efforts going forward.

Review: an evaluation framework

A systemic approach to measuring training’s impact begins with an evaluation framework. For review purposes, a research-based, five-level evaluation framework for measuring training effectiveness is as follows:

1. Level 1 (reaction and planned action): measures reaction to the program and action planned following a training or learning initiative.
2. Level 2 (learning): measures skill and knowledge changes.
3. Level 3 (application): measures extent to which learned skills and knowledge are applied back on the job.
5. Level 5 (ROI): monetary value of the results compared to the program costs, usually expressed as a percentage.

This framework includes techniques for isolating the impact of a training solution and also provides for a sixth data measure: intangible benefits. Intangible benefits are those benefits that have not been converted to monetary value, such as increased morale, improved teamwork, or increased job satisfaction.

Cost-saving approaches

The following ten cost-saving approaches to ROI evaluation (Phillips, 1997) have been successfully utilized by organizations around the globe and have been proven to significantly decrease resource requirements while still providing sound, credible data:

1. Plan for evaluation early in the process.
2. Build evaluation into the training process.
3. Share the responsibilities for evaluation.
4. Require participants to conduct major steps.
5. Use short-cut methods for major steps.
6. Use sampling to select the most appropriate programs for ROI analysis.
7. Use estimates in the collection and analysis of data.
8. Develop internal capability.
10. Utilize technology.
As a continuation of this series, strategies six through ten are described below.

6. Use sampling to select the most appropriate programs for ROI analysis

Selecting a program for ROI analysis is a critical issue. Many organizations find ROI analysis daunting because of the myth that all programs should be evaluated at the ROI level. In reality, best practice organizations define specific criteria for those programs targeted for ROI analysis. Typical criteria for selecting programs for ROI analysis include those programs that:

- involve large target audiences;
- are expected to be viable for a long time;
- are important to overall strategic objectives;
- are expensive;
- have high visibility; and
- have a comprehensive needs assessment.

It is recommended that all programs be evaluated at level 1, the vast majority at level 2, but only a select few at levels 3, 4, and 5.

Target levels are developed in accordance with the resources available and the feasibility of evaluation at each level. Table I presents a sampling of evaluation targets established for a resource-constrained manufacturing environment.

When introducing ROI analysis to the training function, first determine available resources and then choose a small number of initial projects, perhaps two or three. A comprehensive ROI evaluation process is recommended with only 5 percent to 10 percent of all training initiatives and should typically incur 3 percent to 5 percent of the total training budget.

7. Use estimates in the collection and analysis of data

Accounting firms, CFOs, and other organizations routinely use estimates in reporting quarterly and annual data. Using estimates with key aspects of the ROI process cuts costs of data collection, program isolation, and data conversion. Yet estimates just as easily reduce the credibility of reported results if not carefully used. In working with estimates, each of these factors must be addressed for maximum credibility.

Reputation of the source of the data. How credible are the individuals or groups providing the data? Are they knowledgeable of all processes? The target audience will often place more credibility on data obtained from those who are closest to the source of improvement.

Reputation of the source of the study. The target audience scrutinizes the reputation of the individual, group, or organization presenting the data. Do they have a history of providing accurate reports? Are they unbiased and objective with their analysis and presentation? Answers to these and other questions influence perceptions about the reputation of the study.

Motives of the evaluators. Do the individuals presenting the data have an ax to grind? Is there a bias towards creating a favorable or unfavorable result?

<table>
<thead>
<tr>
<th>Table I</th>
<th>Evaluation targets for resource constrained training function at a manufacturing site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation level</td>
<td>Evaluation target</td>
</tr>
<tr>
<td>Level 1</td>
<td>Reaction, planned action</td>
</tr>
<tr>
<td>Level 2</td>
<td>Learning</td>
</tr>
<tr>
<td>Level 3</td>
<td>Application</td>
</tr>
<tr>
<td>Level 4</td>
<td>Business impact</td>
</tr>
<tr>
<td>Level 5</td>
<td>Return-on-investment</td>
</tr>
</tbody>
</table>
“Since many factors influence performance improvement, a credible ROI strategy will include techniques for isolating the direct impact of a training solution.”

Methodology of the study. The audience will want to know how the research was conducted. How were calculations made? What steps were followed? What processes were used? Missing information on the methodology may cause suspicion about the results.

Assumptions made in the analysis. In many ROI studies, assumptions are made on which calculations and conclusions are based. What are the assumptions? Are they standard? How do they compare with assumptions from other reports? When assumptions are omitted, the audience will substitute their own often unfavorable assumptions.

Realism of the outcome data. Impressive ROI values could cause problems. When outcomes appear to be unrealistic, it may be difficult for the target audience to believe them. Huge claims often fall on deaf ears, causing reports to be thrown out before they are reviewed.

Types of data. The target audience will usually have a preference for hard data. They are seeking business performance data tied to output, quality, costs, and time. These measures are usually easily understood and closely related organizational performance.

Scope of analysis. Is the scope of the analysis very narrow? Does it involve just one group or all employees? Limiting the study to a small group of employees makes the process more accurate.

Additional guidelines for the effective use of estimates are noted below:

- Use the most credible and reliable sources.
- Present material in an objective way.
- Fully explain the methodology used throughout the process.
- Omit or adjust unrealistic output values.
- Narrow the scope of analysis. Conduct impact studies with one or more groups of participants instead of all participants.
- Build acceptance with additional validation.

Using estimates for isolation and data conversion

Since many factors influence performance improvement, a credible ROI strategy will include techniques for isolating the direct impact of a training solution. While Philips cites several methods for isolating impact, the most commonly used approach is the use of participant and/or manager estimates. This approach is appropriate when participants are capable of providing estimates of the cost (or value) of the unit of measure improved by applying learned skills. The effectiveness of this approach rests on the assumption that participants are capable of estimating the extent to which performance improvement is related to the training program itself. Because their actions have produced the improvement, participants typically provide very accurate input on the issue.

Participant estimates are obtained by asking a series of questions, usually in a 30 or 60 day post-program questionnaire. Questionnaire items include:

As a result of this program, what specific actions will you apply based upon what you have learned?

How often will you apply this behavior and under what conditions?
What specific unit of measure will change as a result of your actions?
As a result of these anticipated changes, please estimate the monetary benefits to your department over a one-month period.
What is the basis for your estimate?
What level of confidence, expressed as a percentage, do you place on the above estimate? (100 percent = certainty and 0 percent = no confidence).
What percent of this improvement can be attributed to the application of skills/techniques/knowledge gained in the training program?
What other factors, besides training, may contribute to benefits associated with process improvements changes?

Table II shows an example of a participant's estimation of training impact and other influences to performance improvement. In the example shown in Table II, the participant allocates 50 percent of the improvement to training but is only 85 percent confident about this estimate. The confidence percentage is then multiplied by the estimate to develop a cost benefit value, as follows:

Improvement value (A) = $36,000 x Percent of improvement isolated to training (B)
                        = 50% x Confidence level (C)
                        = Cost benefit improvement value (D) = $15,300

The adjusted values (D) for all participant estimates are then totaled as cost benefit data for the final ROI calculation, in which monetary program benefits are compared to fully loaded program costs. To calculate ROI, the program costs are subtracted from the total benefits to produce the net benefits, which are then divided by the costs:

ROI = (Total benefits - Program costs) x 100

Participants who do not provide information on these questions are excluded from the analysis. Also, erroneous, incomplete, and extreme information should be discarded before analysis. When using this isolation strategy, participants should be provided clear instructions in order to minimize tainted data. The advantages of this approach are twofold: first, the individuals closest to the improvement tend to provide the most reliable estimates of its value; and second, evaluation expenses are reduced by having participants supply values.

Supervisor and manager estimates can be utilized as a supplement or substitute for participant estimates. In some settings, supervisors and managers may be more familiar with factors influencing performance. An example of manager estimates can be found in the case study, “Program process improvement team” (Burkett, 2001. This case describes an impact study conducted for a pilot continuous improvement team at Apple Computer’s manufacturing site, where senior management adjusted ROI results using an estimation process. After considering additional factors, such as technology, procedures, and process changes, which could have contributed to reengineering improvements, senior management then applied an additional subjective factor, in this case 50 percent, to represent the ROI results that should be attributed to the training program. The 50 percent factor was developed in a meeting with top managers and therefore had the benefit of group ownership. While this process is subjective, the input is received from the individuals who often approve funding and resource allocation for the program. Sometimes their level of comfort with the process is the most important consideration.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Annual improvement value (A)</th>
<th>Basis of estimate</th>
<th>Isolation factor (B)</th>
<th>Confidence level (C)</th>
<th>Adjusted value = (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$36,000</td>
<td>Improvement in project efficiency. Time saved problem solving ($3,000 month x 12)</td>
<td>50%</td>
<td>85%</td>
<td>$15,300</td>
</tr>
</tbody>
</table>
8. Develop internal capability

There are many compelling reasons to enhance internal capability in training evaluation. First, evaluation makes good economic sense and should be required of any program representing a significant expenditure of funds. Second, in a cost-competitive climate where budgets are constrained, organizations need specific indicators of a program's past success to approve additional funds for the future. Who's going to invest in a training effort that can't show its value?

Despite these factors, establishing an evaluation culture is no easy task. In many ways, implementing a system-wide ROI effort is similar to implementing a large-scale change initiative. On an organizational level, there may be objections about the time or complexity involved in applying the process. Training staff, in particular, may be concerned that ROI results will lead to criticism. Building internal capability in ROI is one of the best ways to overcome these barriers. Building capability is not just about providing people with the right skills – it’s also about providing the right skills to the right people at the right time.

Training staff can enhance ROI readiness and capability by:

- providing ongoing education and training about the ROI process, including management briefings and employee workshops;
- inviting people to participate as reviewers and evaluators;
- establishing a cross-functional ROI advisory group; and
- positioning the ROI methodology as a process improvement tool and not a performance evaluation tool for training staff.

Developing training staff’s skill-sets in evaluation is another component of capacity building. For trainers tasked with improving individual and organizational performance, it’s important to assess whether the cost of closing the performance gap is greater than the cost of allowing the gap to continue. How can you know if you’ve matched the right solution to the right problem without some form of evaluation and measurement?

 Routinely assess and develop training staff's competencies in core aspects of evaluation work, including evaluation planning, data collection, data analysis, calculating ROI, and reporting results. The reality is that the message of a technically sound evaluation report is never good enough unless people believe the messenger. Recognize that a training function's ability to increase organizational confidence and competence with evaluation best practices is directly correlated to training's level of confidence and competence in applying those strategies. Routinely examine personal beliefs and attitudes that may hinder progress. Remember, achieving a results-oriented evaluation approach begins with the mind-set and philosophy of those leading the charge. This mind-set includes:

- How you think about evaluation.
- How you plan for it, implement it, use it.
- How much time you’re willing to spend on it.
- How you prioritize it.

Finally, develop internal capability by continually examining the measurement systems of your business. If you don’t understand what management is measuring, how can you expect to impact it? Make it a point to measure the effectiveness of your training efforts against business measures. The more you use the right measurements and the right resources among the ones already available, the more expedient and less expensive the ROI evaluation process will be.

9. Streamline reporting

One of the most time-consuming steps in communicating ROI results is developing a detailed impact report. Communicating results is vital, however, and ensures that management views ROI evaluation as credible and business-critical. When an
organization first communicates results of an ROI impact study, a comprehensive report is recommended. Once management is comfortable with the process, a shoestring approach to reporting results may be more appropriate and certainly less time-consuming. Figure 1 shows an example of a streamlined impact report.

10. Utilize technology

Many training functions lack the time or resources to do comprehensive data collection and analysis. Technology can make data collection easier and can also assist in making sense of data collected. Many technological solutions are available to enhance evaluation capabilities. A leading learning analytics and measurement tool is Metrics that Matter™ (MTM) by KnowledgeAdvisors (www.knowledgeadvisors.com). MTM wraps technology

**Figure 1** Sample streamlined impact report

<table>
<thead>
<tr>
<th>Impact Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Title:</strong> Continuous Improvement Program</td>
</tr>
<tr>
<td><strong>Target Audience:</strong> Pilot groups of cross-functional team members in a dynamic manufacturing environment</td>
</tr>
<tr>
<td><strong>Duration:</strong> 6 Weeks (36 hours)</td>
</tr>
<tr>
<td><strong>Technique to Isolate Effects:</strong> Participant estimation, trend analysis</td>
</tr>
<tr>
<td><strong>Technique to Convert Data to Monetary Value:</strong> Historical costs, internal experts, labor cost per unit, units per person per hour (UPPH engineering formula)</td>
</tr>
<tr>
<td><strong>Fully Loaded Program Costs:</strong> $53,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reaction Results</th>
<th>Learning Results</th>
<th>Application Results</th>
<th>Business Impact Results</th>
<th>Return on Investment</th>
<th>Intangible Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8 out of 5 achieved on Overall Satisfaction</td>
<td>Participants demonstrated ability with select continuous improvement skills during action learning scenarios (i.e., root cause analysis exercises; value added flow analysis demonstration)</td>
<td>94% applied Continuous Improvement skills to a defined reengineering project within 30 days of workshop</td>
<td>Monetary benefits from increased units per person per hour $79,550 Value (based upon average product life cycle of 21.5 weeks)</td>
<td>ROI (%) = Net Program Benefits Costs $149,608 - 53,000 = 53,000 1.82 x 100 = 182%</td>
<td>Increased systems view</td>
</tr>
<tr>
<td>4.8 out of 5 achieved on recommending program to others</td>
<td></td>
<td>86% report significant productivity increases in daily work as a result of applied Continuous Improvement skills</td>
<td></td>
<td></td>
<td>Improved cross functional collaboration</td>
</tr>
<tr>
<td>Rating of 4.5 achieved on relevance of program to daily job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Improved decision making</td>
</tr>
<tr>
<td>94% reported intention to apply learnings to Team Project Plan within 30 days of the workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Improved process understanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Better picture of the cost associated with production</td>
</tr>
</tbody>
</table>

a big challenge for ROI implementation is maintaining the integrity of the process so that it remains more than a passing fad or short-term phenomenon.”

around the proven evaluation methodologies of Kirkpatrick and of Phillips. The result is a powerful way of automating Phillip’s ROI process and measuring the impact of training. Specifically, standard data collection instruments can be leveraged and customized to gather data from multiple respondents at various points in time (at time of training, back on the job). MTM reports can compare data internally or against a benchmark database containing over 30 million data points. Data from LMS, ERP, CRM, MRP, and other systems can also be integrated into MTM for more comprehensive analysis.

With any technological approach, prior communication is critical to ensuring a positive utilization rate. Explain the purpose and the importance of your surveys. Provide a way for respondents to learn how their input was used. Follow up and send thank you e-mails to participants, their managers, and executive staff, as appropriate.

Implementation issues

Achieving a results-oriented evaluation focus can be time consuming, labor intensive and sometimes perceived as intrusive. When ROI process implementation fails to take hold in an organization, it’s typically due to the following reasons:

- Unclear methodology or framework.
- Lack of a clear vision or goal.
- Lack of leadership.
- Changing directions in mid-stream.
- Poor communication.
- Unmet or unrealistic customer expectations.
- Resource issues, including; not enough resources; competition for resources; inadequate or poorly trained resources.

As with any change effort, constant attention and focus must be maintained to build and sustain the ROI process over time. Preparation and planning is only half the journey.

A big challenge for ROI implementation is staying on track and maintaining the health and integrity of the process so that it remains more than a passing fad or short-term phenomenon. One of the best pieces of advice for any training function seeking to standardize the ROI process as a way of doing business is this: “Commit to the long haul.” Ultimately, this is not the sole responsibility of the training function. Cooperation, interaction, and dedication of individuals and groups across all organizational levels is needed. The following enabling strategies will help with these challenges:

- Build and maintain stable links for integrating evaluation data with other organizational metrics.
- Gain leadership support and commitment.
- Make optimum use of resources – identify interdependencies.
- Establish continuous improvement mechanisms.
- Recognize and reward “small wins”.
- Communicate the ROI of the ROI.
Summary

Integrating ROI processes into the organizational mainstream is simply a matter of helping stakeholders define which initiatives are effectively adding value and meeting intended objectives across multiple levels of evaluation, not just ROI or the financial return on investment. Significant payoffs associated with using the ROI methodology over time include the following:

1. It transforms the role of training in the organization.
2. It increases alignment with business needs.
3. It improves the efficiency of solution design, development, and delivery by:
   - reducing costs;
   - preventing a program from being implemented after the pilot process shows that it delivers no value;
   - expanding programs when other areas need the program; and
   - discontinuing programs when they add no value.
4. It enhances the value of learning and development in the organization.
5. It builds respect, support, and commitment from internal groups, including senior executives and major program sponsors.

Practical application of the ten cost-savings approaches described in this series allows the resource-constrained training function to present their work in terms of financial benefits that leaders understand and have come to expect. It is a vital step in establishing business partnerships that will enhance commitment for training programs, products, and services going forward.

Reference


Further reading


