# RETURN ON INVESTMENT ANALYSIS FOR TRAINING AND DEVELOPMENT

*by:*
*Michael Leimbach, Ph.D.*
*Research Director*
*Wilson Learning Corporation*

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## INTRODUCTION

There are new characteristics in today's business environment that determine success and failure. Size, deep pockets, and brand recognition have been replaced by speed, surprise, and knowledge leadership as critical competitive factors in the global market place. In this new information age, companies can live or die on the basis of these intangible items that never appear on a balance sheet.[1]

Today, improvement in performance and efficiency increasingly comes from the development of employees' knowledge and skills and less from investment in tangible assets. Central to creating these new assets is training and development. For example, Motorola can make 200 percent more pagers than it could four years ago with just 22 percent more manufacturing employees. What has changed? In the words of the plant's general manager: "The factory doesn't look much different. The improvement came through training. Our return on training is on the order of 30 to 1."[2] Examples like this illustrate how organizations closely tie human capabilities to strategic business objectives. As one top executive at Pacific Bell said, "I view training as a strategic imperative. It can and should be a real differentiator in a marketplace that has a lot of competition."[3] As a result, organizations have an increasing need to maximize the value of the investment they make in developing their human assets.

Maximizing training and development efforts requires information on how training and development dollars impact strategy implementation. What are the core competencies critical to meeting the strategic objectives? Are new skills in place for addressing future competitive pressures? Is the current training and development process creating meaningful performance changes in the work place? A few years ago, most training and development professions did not have answers to these questions. Today, the answers are critical!

One element in positioning training and development as a strategic resource is in calculating the return on investment (ROI). ROI analysis can be a powerful tool in aligning training and development with corporate strategy. Wilson Learning has developed this self-lead analysis for projecting, estimating, or calculating the financial return on investment of training and development efforts. This analysis can serve to align training and development initiatives with corporate strategy by providing a process for evaluating training in terms more consistent with tangible assets: dollars.

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[1] Geber, B. (1992, January). A Capital Idea. *Training*, pp. 31–34.

[2] *Fortune*, October 19, 1992, p. 57.

[3] Galagan, P. A. (1995, February). Business Units Take the Lead in Capability 97. *Training & Development*, p. 30.

This analysis consists of eight steps for calculating an ROI. Each step provides a method that relies only on your experience and expertise. However, for some steps you can gain a more precise measure by collecting data or involving other stakeholders. The steps are summarized as follows:

***Step 1: Identify Sources of Performance Improvement***
What organizational outcomes will be affected by the development efforts? This step links the organization's or work unit's objectives to the training and development activities.

***Step 2: Determine the Value of the Job***
What is the dollar value of the performance increase that you achieve through your training and development efforts? This workshop provides two methods of determining the value of the job.

***Step 3: Determine the Importance of the Skills***
Rarely are all the skills of a job developed in one program. Therefore, to get an accurate indicator of the return on investment it is important to determine what proportion of the job is affected.

***Step 4: Determine Performance Improvement***
The degree of performance improvement you can expect from training is determined by two elements: effectiveness of the training and the range of acceptable performance on the job. Two methods are provided for determining performance improvement.

***Step 5: Determine the Duration of the Training Benefits***
How long the training effect lasts is a critical element to its return. While the quality of the training itself will affect duration, other characteristics of the job and organization will also impact duration. Two methods are provided for determining the duration of the training benefits.

***Step 6: Calculate the Benefit of Training***
This step takes the results from the preceding five steps and calculates the dollar value of the training and development effort.

***Step 7: Calculate the Cost of Training***
What is the total cost of the training and development effort? The workshop considers all the cost factors: needs analysis, development, session, participants, and evaluations costs.

***Step 8: Determine the Return on Investment***
The final step combines the results from Step 6 and Step 7 to calculate the Return On Investment.

## BENEFITS OF ANALYSIS

In the reengineered environment, training departments are being asked tougher questions about the costs and impact of training on business performance. Through this workshop, training professionals can produce documentation beyond how many people were trained or their reactions to training. This workshop provides the training professionals with a means to assess training in light of its contributions, that is, its link to strategy, and its ability to contribute value to the overall performance of the company. This workshop will provide human resource professionals with support for evaluating and allocating training resources, and aligning human resource development with the strategic goals of the business.

# RETURN ON INVESTMENT SUMMARY

The information outlined in the following chart is sufficient to determine the return on investment of three different training examples. Therefore, you can use this chart to compare different training program or to compare the return on investment of training different populations of employees. The exercises and worksheet that follow will help you in completing this chart.

**RETURN ON INVESTMENT SUMMARY CHART**

| | | Example A | Example B | Example C |
|---|---|---|---|---|
| | Source of performance differences | | | |
| 1. | Number of people trained | | | |
| 2. | Value of job | | | |
| 3. | Importance to the job | | | |
| 4. | Performance Improvement | | | |
| 5. | Duration of gains | | | |
| 6. | Training Benefit | | | |
| 7. | Training Investment | | | |
| 8. | **Return On Investment** | | | |

# STEP 1: IDENTIFY SOURCES OF PERFORMANCE IMPROVEMENT

The first step in determining impact is identifying what organizational outcomes will be affected by the developmental efforts. In other words, what links the organization's (or work unit's) success to the training and development activities?

**PERFORMANCE IMPROVEMENT WORKSHEET**

| |
|---|
| 1. What is this organization's or work unit's vision of success (what outcomes are you trying to achieve)? |
| 2. Given this vision of success, what are the priority issues that are preventing the organization or work unit from achieving this vision (what are the sources of performance differences)? |
| 3. Given these priorities, what things have to be done right to accomplish this (what are the Critical Success Factors)? |
| 4. What are the priority training and development needs for achieving these Critical Success Factors? |

# STEP 2: DETERMINE THE VALUE OF THE JOB

The most difficult element to determine precisely is the dollar value of the performance increase. In this model, Value is expressed as a standard deviation. In other words, we need to determine, in dollar value, the differences between the marginal performer (performing at the 15th percentile), the average performer, and the high performer (performing at the 85th percentile).

A number of studies suggest that a conservative rule of thumb is that the dollar value of the job averages 40 percent of the annual salary or wage. This average can be made more precise by considering a number of variables.

**JOB VALUE WORKSHEET**

1. For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of this job relative to other jobs in your organization.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | This job has a high degree of complexity. | -5 | -2 | 0 | +2 | +5 |
| 2. | This job has a direct impact on the quality of the company's product or services. | -5 | -2 | 0 | +2 | +5 |
| 3. | People in this job have significant authority for decision making. | -5 | -2 | 0 | +2 | +5 |
| 4. | This is a job where tasks and responsibilities change rapidly. | -5 | -2 | 0 | +2 | +5 |
| 5. | This is a higher management level. | -5 | -2 | 0 | +2 | +5 |
| 6. | This job requires a long time to learn. | -5 | -2 | 0 | +2 | +5 |
| | Total Score | | | | | |

2. Add your TOTAL SCORE to 40 percent and multiply the new percentage by the average salary for this position. The result is the estimate of the dollar value for this job.

| | |
|---|---|
| Total Score (from above) | |
| Add 40 Percent | +40 |
| Final Percentage | |
| (multiply by) | * |
| Average Salary for the job | |
| Dollar Value of the Job | |

**Enter this figure in Row 2 of the Summary Chart.**

**ALTERNATE METHOD FOR CALCULATING VALUE OF JOB WORKSHEET**

1. Ask supervisors and internal subject matter experts to estimate the value of the services of marginal, average, and outstanding performers of the job. In making these estimates, they should consider:

   a) What is the value of the work produced?

   b) What would it cost to have an external vendor provide the products or services?

| | Evaluator #1 | Evaluator #2 | Evaluator #3 |
|---|---|---|---|
| Marginal performance | | | |
| Average performance | | | |
| Outstanding performance | | | |

1. For each evaluator, calculate the difference between marginal and average performance and also the difference between outstanding and average performance.

| | **Average - Marginal** | **Outstanding - Average** |
|---|---|---|
| **Evaluator #1** | | |
| **Evaluator #2** | | |
| **Evaluator #3** | | |
| **Average** | | |

1. To choose a final Value figure:

   a) If the average for “Average - Marginal” and the “Outstanding - Average” are close to each other, choose a value halfway in between.

   b) If they are not close, choose the one (Average-Marginal, or Outstanding-Average) that shows the greatest consistency across the three raters.

   c) If neither of the above applies, choose the most conservative (meaning the lowest) of the two averages.

# STEP 3: DETERMINE THE IMPORTANCE OF THE SKILLS

You rarely train all the skills of a job in one program. Therefore, any single training effort will affect only a portion of the total job performance. To get an accurate indicator of return on investment, it is important to know what percentage of the total job is being trained.

**PERCENTAGE OF THE JOB BEING TRAINED WORKSHEET**

| | **Percent (0.00 to 1.00)** |
|---|---|
| What percentage of the employee's daily activities involves use of these skills? | |
| What percentage of the performance appraisal is tied to these skills? | |
| How central to individual performance are these skills?<br>peripheral = 20% (.20) important = 60% (.60)<br>somewhat = 40% (.40) critical = 80% (.80) | |
| How critical are these skills to the work of the department or function?<br>peripheral = 20% (.20) important = 60% (.60)<br>somewhat = 40% (.40) critical = 80% (.80) | |
| Add the percentages to obtain a total. | |
| Divide the total by 4 to get the average percentage for the job. | |

**Enter this figure in Row 3 of the Summary Chart.**

# STEP 4: DETERMINE PERFORMANCE IMPROVEMENT

To determine return on investment, a value for the difference between a trained employee and an untrained employee must be identified:

a) *Training Effectiveness:* Performance differences are primarily dependent upon the effectiveness of the training.

b) *Performance Range:* In addition to training effectiveness, research has also shown that performance improvement is also affected by the performance range of the job. In some jobs, the range of acceptable performance is very narrow and, as a result, the training of job holders will have less of an impact. In other jobs, acceptable performance has a higher range, and these jobs are more likely to be affected by training efforts.

**PERFORMANCE RANGE WORKSHEET**

For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of this job relative to other jobs in your organization.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | While high performance is desired, there is a wide gap between the best and worst performer. | 1 | 2 | 3 | 4 | 5 |
| 2. | This job is provided with direct and continuous feedback for performance. | 5 | 4 | 3 | 2 | 1 |
| 3. | The job is highly complex and requires much individual discretion. | 1 | 2 | 3 | 4 | 5 |
| 4. | There is little margin for error in this job. | 5 | 4 | 3 | 2 | 1 |
| 5. | This job involves the handling of sensitive or confidential information. | 5 | 4 | 3 | 2 | 1 |
| 6. | This job involves the handling of large sums of money. | 5 | 4 | 3 | 2 | 1 |
| 7. | This job has a direct impact on people's safety or health. | 5 | 4 | 3 | 2 | 1 |
| 8. | This job requires teamwork with other employees. | 5 | 4 | 3 | 2 | 1 |
| | Total Score | | | | | |

A score of 8 indicates that there is little variability in acceptable performance. A score of 40 indicates wide variability in acceptable performance.

**Enter the Total Score on line 1 of the Performance Improvement Worksheet on page 11.**

**TRAINING EFFECTIVENESS WORKSHEET**

For each statement below, indicate how much you disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of the skills or training program under consideration.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | These skills are easy to teach. | 1 | 2 | 3 | 4 | 5 |
| 2. | We will be training a large percentage of the people in this job or area. | 1 | 2 | 3 | 4 | 5 |
| 3. | There is sufficient opportunity to practice these skills on the job. | 1 | 2 | 3 | 4 | 5 |
| 4. | This program has been specifically tailor or adapted for the organization. | 1 | 2 | 3 | 4 | 5 |
| 5. | The program includes pre-work that helps prepare the employees for the learning event. | 1 | 2 | 3 | 4 | 5 |
| 6. | The program includes a feedback instrument or other diagnostic process that helps the employees focus their learning | 1 | 2 | 3 | 4 | 5 |
| 7. | The program includes tools or other supports to help transfer the learning to the job. | 1 | 2 | 3 | 4 | 5 |
| 8 | Support or follow-up activities are included as part of the implementation. | 1 | 2 | 3 | 4 | 5 |
| 9. | The employees' managers are provided with training to help them coach and support the use of the skills. | 1 | 2 | 3 | 4 | 5 |
| 10. | Key stakeholders agree that the program is effective. | 1 | 2 | 3 | 4 | 5 |
| | Total Score | | | | | |

**Enter the result on line 2 of the Performance Improvement Worksheet on the following page.**

**PERFORMANCE IMPROVEMENT WORKSHEET**

Performance differences are expressed as a proportion of a standard deviation in the performance measure. For example, a performance difference of .5 indicates that the training results in an increase of .5 (half) of a standard deviation in the performance measure.

Most studies that have determined performance differences between trained and untrained employees have obtained values ranging from .40 to .80 for a standard performance difference. The purpose of this worksheet is to help you narrow this estimate down to a more precise range.

Plot the values below and locate the point where the two values intersect.

**Performance Range**

1: _____

| | | Narrow 8 | Wide 40 |
|---|---|---|---|
| | Low 10 | 10-30% (.1 to .3) | 30-50% (.3 to .5) |
| **Training Effectiveness** 2:_____ | 30 | | |
| | | 30-50% (.3 to .5) | 50-70% (.5 to .7) |
| | High 50 | | |

The quadrant in which the two values intersect represents a reasonable estimate of the performance differences you may expect to achieve. Based on your experiences, choose a decimal value within the range presented and write the value below.

Estimated performance difference = _____ standard deviations.

**Enter this figure in Row 4 of the Summary Chart.**

## ALTERNATE METHOD OF CALCULATING PERFORMANCE DIFFERENCES

To measure performance differences directly:

- Decide which specific behaviors, attitudes, skills, or result the training could be expected to impact.
- Decide on appropriate pre- and post-training measures of these behaviors, attitudes, skills, or results. Measure employee performance before and after training.

A cost-effective method of measuring performance differences is to conduct interviews with employees' managers.

### INTERVIEW PROTOCOL

1. Overview course content with managers.
2. Have the managers identify the behaviors they expect to change as a result of the training.
3. Cluster the behaviors into skill sets.
4. Have the managers describe three levels of performance for each skill set (excellent, average, and unacceptable) in terms of which are observable, measurable, and discrete.
5. For each skill set, construct a 7-point rating scale with the excellent performance description at 7, average performance at 4, and unacceptable performance at 1.
6. If this is being done before training, each employee should be rated before training and again after training.
7. If this is post-training only, have managers recall prior behavior and rate employees' performances on the 7-point scale, and then rate each employee's current behavior.

(*Note:* It is important to express pre- and post- differences as a proportion of the standard deviation of the performance measure to use the date in completing a return on investment analysis. Consult an introductory statistics text to see how to do this.)

# STEP 5: DETERMINE THE DURATION OF THE TRAINING BENEFITS

The benefit of training is in part a function of how long the training effect will last. While the quality of the training itself will affect duration, other characteristics of the job and organization will also impact duration. The worksheet below helps you estimate the duration of the training effect. Keep in mind that the range provided is only an estimate and may be lower or higher depending on the characteristics of your organization.

**DURATION WORKSHEET**

For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of the people being trained, relative to people in other positions.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | The job functions for this position have not changed a great deal in the past 2–3 years. | 1 | 2 | 3 | 4 | 5 |
| 2. | The skills taught can be learned easily without training. | 5 | 4 | 3 | 2 | 1 |
| 3. | I expect these skills to remain important to the organization's success. | 1 | 2 | 3 | 2 | 1 |
| 4. | The organization (managers and top management) supports learning and using these skills. | 1 | 2 | 3 | 4 | 5 |
| 5. | People tend to stay in this job, with little turnover. | 1 | 2 | 3 | 4 | 5 |
| 6. | The skills learned in this program are easily forgotten. | 5 | 4 | 3 | 2 | 1 |
| 7. | There was/will be follow-up training for this program. | 1 | 2 | 3 | 4 | 5 |
| Total Score | | | | | | |

Estimate the years the training will impact performance by locating the duration of training effect that is closest to your total score for the questions above. Duration is given in years.

| Score | 6-8 | 9-11 | 12-14 | 15-17 | 18-20 | 21-23 | 24-26 | 27-30 |
|---|---|---|---|---|---|---|---|---|
| Duration | 1/2 | 1 | 1-1/2 | 2 | 2-1/2 | 3 | 3-1/2 | 4 |

**Enter in Row 5 of the Summary Chart.**

## ALTERNATE METHOD FOR CALCULATING DURATION OF TRAINING EFFECT

One method of assessing the duration of a training effect is to sample trained employees' behavior over time:

- Estimate the potential duration range (for example, 6 to 12 months or 6 to 12 years).
- Use the performance measures identified previously.
- Implement measures four to six times after training.
- Sample trained and untrained employees' behavior to control for the effects of unstructured learning.
- Use the same measures each time.
- Another method of assessing the duration of training effects is to conduct interviews with trained employees or their supervisors.

**SAMPLE INTERVIEW QUESTIONS**

Onset and duration of training:

- At what point were the skills implemented in the performance of the job?
- Are the skills still useful?
- Are these skills increasing or decreasing in the performance of the job?

Informal learning:

- If you had not had training, how long do you think it would have taken you to learn the skills?

Relevance:

- How much longer do you think these skills will remain important to the performance of the job?

# STEP 6: CALCULATE THE BENEFIT OF TRAINING

To estimate the benefits of the training program you need to know five things:

- The number of people trained
- The dollar value of the job
- The percent of the job affected by the trained skills
- Performance improvement due to training
- The duration of the training effect

**BENEFITS WORKSHEET**

Number of People Trained = _____
*(from row 1)*

Dollar Value of the Job = _____
*(from row 2)*

Percent of Job Affected by Trained Skills = _____
*(from row 3)*

Improvement Due to Training = _____
*(from row 4)*

Duration of Training Effect = _____
*(from row 5)*

*(Multiply these five numbers together to find the estimated dollar benefit of the training.)*

Dollar Benefit of the Training = _____

**Enter the Dollar Benefit figure in Row 6 of the Summary Chart.**

# STEP 7: CALCULATE THE COST OF TRAINING

Determining costs is rather straightforward; however, it is easy to miss important cost factors. The most precise method is to delineate each activity involved in the program and then log the number of hours staff members spend on each step and in total expenditures.

The worksheet provided below is a simpler approach to estimate the costs of implementing the training program within your organization.

**TRAINING COST ESTIMATE WORKSHEET**

In the boxes on the far right side, write your actual or estimated costs for each step.

| | | | | |
|---|---|---|---|---|
| Conducting needs/job analysis | | | | $ |
| Designing and developing the program | | | | $ |
| Session Costs (trainer, facilities, etc.) | * | Number of sessions | = | $ |
| Participant Costs (materials, travel, salary, etc.) | * | Number of participants | = | $ |
| Costs of evaluation | | | | $ |
| Total Costs | | | | $ |

**Enter this in Row 7 of the Summary Chart.**

# STEP 8: DETERMINE THE RETURN ON INVESTMENT

To figure the return on investment, you simply divide the net benefit (total benefit minus estimated cost) of the training by the cost of the training to find the N:1 ratio, which represents the relationship between those two figures.

Example: Total benefit of training = $1,230,424
Estimated cost of training = $94,648
Net benefit of training = $1,135,776

$1,135,776 divided by $94,648
Therefore, the return on investment is 12:1.

**ROI WORKSHEET**

| | |
|---|---|
| Total benefit of training | _____ *(from Row 8)* |
| Cost of training | _____ *(from Row 9)* |
| Subtract cost of training from total benefit of training. *(This gives you net benefit of training.)* | _____ |
| Net Benefit of Training divided by Cost of Training *(Enter this number in the blank below.)* | |
| Therefore, the calculated return on investment is | _____: 1. |

**Enter this ratio in Row 8 of the Summary Chart.**

# APPENDIX

This Appendix provides additional copies of all the forms, checklists, and survey forms used in the return-on-investment analysis process. These are provided so you can easily apply the process to other training programs.

# RETURN ON INVESTMENT SUMMARY CHART

| | | Example A | Example B | Example C |
|---|---|---|---|---|
| | Source of performance differences | | | |
| 1. | Number of people trained | | | |
| 2. | Value of job | | | |
| 3. | Importance to the job | | | |
| 4. | Performance Improvement | | | |
| 5. | Duration of gains | | | |
| 6. | Training Benefit | | | |
| 7. | Training Investment | | | |
| 8. | **Return On Investment** | | | |

# STEP 1: IDENTIFY SOURCES OF PERFORMANCE IMPROVEMENT

The first step in determining impact is identifying what organizational outcomes will be affected by the developmental efforts. In other words, what links the organization's (or work unit's) success to the training and development activities?

**PERFORMANCE IMPROVEMENT WORKSHEET**

| |
|---|
| 1. What is this organization's or work unit's vision of success (what outcomes are you trying to achieve)? |
| 2. Given this vision of success what are the priority issues that are preventing the organization or work unit from achieving this vision (what are the sources of performance differences)? |
| 3. Given these priorities, what things have to be done right to accomplish this (what are the Critical Success Factors)? |
| 4. What are the priority training and development needs for achieving these Critical Success Factors? |

# STEP 2: DETERMINE THE VALUE OF THE JOB

The most difficult element to determine precisely is the dollar value of the performance increase. In this model, Value is expressed as a standard deviation. In other words, we need to determine, in dollar value, the differences between the marginal performer (performing at the 15th percentile), the average performer, and the high performer (performing at the 85th percentile).

A number of studies suggest that a conservative rule of thumb is that the dollar value of the job averages 40 percent of the annual salary or wage. This average can be made more precise by considering a number of variables.

**JOB VALUE WORKSHEET**

1. For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of this job relative to other jobs in your organization.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | This job has a high degree of complexity. | -5 | -2 | 0 | +2 | +5 |
| 2. | This job has a direct impact on the quality of the company's product or services. | -5 | -2 | 0 | +2 | +5 |
| 3. | People in this job have significant authority for decision making. | -5 | -2 | 0 | +2 | +5 |
| 4. | This is a job where tasks and responsibilities change rapidly. | -5 | -2 | 0 | +2 | +5 |
| 5. | This is a higher management level. | -5 | -2 | 0 | +2 | +5 |
| 6. | This job requires a long time to learn. | -5 | -2 | 0 | +2 | +5 |
| | Total Score | | | | | |

2. Add your TOTAL SCORE to 40 percent and multiply the new percentage by the average salary for this position. The result is the estimate of the dollar value for this job.

| | |
|---|---|
| Total Score (from above) | |
| Add 40 Percent | +40 |
| Final Percentage | |
| (multiply by) | * |
| Average Salary for the job | |
| Dollar Value of the Job | |

**Enter this figure in Row 2 of the Summary Chart.**

# STEP 3: DETERMINE THE IMPORTANCE OF THE SKILLS

You rarely train all the skills of a job in one program. Therefore, any single training effort will affect only a portion of the total job performance. To get an accurate indicator of return on investment, it is important to know what percentage of the total job is being trained.

**PERCENTAGE OF THE JOB BEING TRAINED WORKSHEET**

| | **Percent (0.00 to 1.00)** |
|---|---|
| What percentage of the employee's daily activities involves use of these skills? | |
| What percentage of the performance appraisal is tied to these skills? | |
| How central to individual performance are these skills?<br>peripheral = 20% (.20) important = 60% (.60)<br>somewhat = 40% (.40) critical = 80% (.80) | |
| How critical are these skills to the work of the department or function?<br>peripheral = 20% important = 60%<br>somewhat = 40% critical = 80% | |
| Add the percentages to obtain a total. | |
| Divide the total by 4 to get the average percentage for the job. | |

**Enter this figure in Row 3 of the Summary Chart.**

# STEP 4: DETERMINE PERFORMANCE IMPROVEMENT

To determine return on investment, a value for the difference between a trained employee and an untrained employee must be identified:

a) *Training Effectiveness:* Performance differences are primarily dependent upon the effectiveness of the training.

b) *Performance Range:* In addition to training effectiveness, research has also shown that performance improvement is also affected by the performance range of the job. In some jobs, the range of acceptable performance is very narrow and, as a result, the training of job holders will have less of an impact. In other jobs, acceptable performance has a higher range, and these jobs are more likely to be affected by training efforts.

**PERFORMANCE RANGE WORKSHEET**

For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of this job relative to other jobs in your organization.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | While high performance is desired, there is a wide gap between the best and worst performer. | 1 | 2 | 3 | 4 | 5 |
| 2. | This job is provided with direct and continuous feedback for performance. | 5 | 4 | 3 | 2 | 1 |
| 3. | The job is highly complex and requires much individual discretion. | 1 | 2 | 3 | 4 | 5 |
| 4. | There is little margin for error in this job. | 5 | 4 | 3 | 2 | 1 |
| 5. | This job involves the handling of sensitive or confidential information. | 5 | 4 | 3 | 2 | 1 |
| 6. | This job involves the handling of large sums of money. | 5 | 4 | 3 | 2 | 1 |
| 7. | This job has a direct impact on people's safety or health. | 5 | 4 | 3 | 2 | 1 |
| 8. | This job requires teamwork with other employees. | 5 | 4 | 3 | 2 | 1 |
| | Total Score | | | | | |

A score of 8 indicates that there is little variability in acceptable performance. A score of 40 indicates wide variability in acceptable performance.

**Enter the Total Score on line 1 of the Performance Improvement Worksheet.**

**TRAINING EFFECTIVENESS WORKSHEET**

For each statement below, indicate how much you disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of the skills or training program under consideration.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | These skills are easy to teach. | 1 | 2 | 3 | 4 | 5 |
| 2. | We will be training a large percentage of the people in this job or area. | 1 | 2 | 3 | 4 | 5 |
| 3. | There is sufficient opportunity to practice these skills on the job. | 1 | 2 | 3 | 4 | 5 |
| 4. | This program has been specifically tailor or adapted for the organization. | 1 | 2 | 3 | 4 | 5 |
| 5. | The program includes pre-work that helps prepare the employees for the learning event. | 1 | 2 | 3 | 4 | 5 |
| 6. | The program includes a feedback instrument or other diagnostic process that helps the employees focus their learning | 1 | 2 | 3 | 4 | 5 |
| 7. | The program includes tools or other supports to help transfer the learning to the job. | 1 | 2 | 3 | 4 | 5 |
| 8 | Support or follow-up activities are included as part of the implementation. | 1 | 2 | 3 | 4 | 5 |
| 9. | The employees' managers are provided with training to help them coach and support the use of the skills. | 1 | 2 | 3 | 4 | 5 |
| 10. | Key stakeholders agree that the program is effective. | 1 | 2 | 3 | 4 | 5 |
| | Total Score | | | | | |

**Enter the result on line 2 of the Performance Improvement Worksheet.**

**PERFORMANCE IMPROVEMENT WORKSHEET**

Performance differences are expressed as a proportion of a standard deviation in the performance measure. For example, a performance difference of .5 indicates that the training results in an increase of .5 (half) of a standard deviation in the performance measure.

Most studies that have determined performance differences between trained and untrained employees have obtained values ranging from .40 to .80 for a standard performance difference. The purpose of this worksheet is to help you narrow this estimate down to a more precise range.

Plot the values below and locate the point where the two values intersect.

**Performance Range**

1: _____

| | | Narrow 8 | Wide 40 |
|---|---|---|---|
| | Low 10 | 10-30% (.1 to .3) | 30-50% (.3 to .5) |
| **Training Effectiveness** 2:_____ | 30 | 30-50% (.3 to .5) | 50-70% (.5 to .7) |
| | High 50 | | |

The quadrant in which the two values intersect represents a reasonable estimate of the performance differences you may expect to achieve. Based on your experiences, choose a decimal value within the range presented and write the value below.

Estimated performance difference = _____ standard deviations.

**Enter this figure in Row 4 of the Summary Chart.**

# STEP 5: DETERMINE THE DURATION OF THE TRAINING BENEFITS

**DURATION WORKSHEET**

For each statement below, indicate how much you Disagree (SD = Strongly Disagree) or Agree (SA = Strongly Agree) that the statement is characteristic of the people being trained, relative to people in other positions.

| | | SD | D | N | A | SA |
|---|---|---|---|---|---|---|
| 1. | The job functions for this position have not changed a great deal in the past 2–3 years. | 1 | 2 | 3 | 4 | 5 |
| 2. | The skills taught can be learned easily without training. | 5 | 4 | 3 | 2 | 1 |
| 3. | I expect these skills to remain important to the organization's success. | 1 | 2 | 3 | 2 | 1 |
| 4. | The organization (managers and top management) supports learning and using these skills. | 1 | 2 | 3 | 4 | 5 |
| 5. | People tend to stay in this job, with little turnover. | 1 | 2 | 3 | 4 | 5 |
| 6. | The skills learned in this program are easily forgotten. | 5 | 4 | 3 | 2 | 1 |
| 7. | There was/will be follow-up training for this program. | 1 | 2 | 3 | 4 | 5 |
| Total Score | | | | | | |

Estimate the years the training will impact performance by locating the duration of training effect that is closest to your total score for the questions above. Duration is given in years.

| Score | 6-8 | 9-11 | 12-14 | 15-17 | 18-20 | 21-23 | 24-26 | 27-30 |
|---|---|---|---|---|---|---|---|---|
| Duration | 1/2 | 1 | 1-1/2 | 2 | 2-1/2 | 3 | 3-1/2 | 4 |

**Enter in Row 5 of the Summary Chart.**

# STEP 6: CALCULATE THE BENEFIT OF TRAINING

To estimate the benefits of the training program you need to know five things:

- The number of people trained
- The dollar value of the job
- The percent of the job affected by the trained skills
- Performance improvement due to training
- The duration of the training effect

**BENEFITS WORKSHEET**

Number of People Trained = _____
*(from row 1)*

Dollar Value of the Job = _____
*(from row 2)*

Percent of Job Affected by Trained Skills = _____
*(from row 3)*

Improvement Due to Training = _____
*(from row 4)*

Duration of Training Effect = _____
*(from row 5)*

*(Multiply these five numbers together to find the estimated dollar benefit of the training.)*

Dollar Benefit of the Training = _____

**Enter the Dollar Benefit figure in Row 6 of the Summary Chart.**

# STEP 7: CALCULATE THE COST OF TRAINING

Determining costs is rather straightforward; however, it is easy to miss important cost factors. The most precise method is to delineate each activity involved in the program and then log the number of hours staff members spend on each step and in total expenditures.

The worksheet provided below is a simpler approach to estimate the costs of implementing the training program within your organization.

**TRAINING COST ESTIMATE WORKSHEET**

In the boxes on the far right side, write your actual or estimated costs for each step.

| | | | | |
|---|---|---|---|---|
| Conducting needs/job analysis | | | | $ |
| Designing and developing the program | | | | $ |
| Session Costs (trainer, facilities, etc.) | * | Number of sessions | = | $ |
| Participant Costs (materials, travel, salary, etc.) | * | Number of participants | = | $ |
| Costs of evaluation | | | | $ |
| Total Costs | | | | $ |

**Enter this in Row 7 of the Summary Chart.**

# STEP 8: DETERMINE THE RETURN ON INVESTMENT

To figure the return on investment, you simply divide the net benefit (total benefit minus estimated cost) of the training by the cost of the training to find the N:1 ratio, which represents the relationship between those two figures.

Example: Total benefit of training = $1,230,424
Estimated cost of training = $94,648
Net benefit of training = $1,135,776

$1,135,776 divided by $94,648
Therefore, the return on investment is 12:1.

**ROI WORKSHEET**

| | |
|---|---|
| Total benefit of training | _____ *(from Row 8)* |
| Cost of training | _____ *(from Row 9)* |
| Subtract cost of training from total benefit of training. *(This gives you net benefit of training.)* | _____ |
| Net Benefit of Training divided by Cost of Training *(Enter this number in the blank below.)* | |
| Therefore, the calculated return on investment is | _____: 1. |

**Enter this ratio in Row 8 of the Summary Chart.**