ROI INSTITUTE®

Measuring ROI in Human Resources, Learning & Development, and Performance Improvement

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Module 1:
Introduction and Readiness to Learn

Module 1: Introduction and Readiness to Learn

Workshop Components

- Frequent short breaks
- Networking
- Participation and learning in small teams or groups
- Learn by doing
- Questions and sharing
- Capture action items for consideration
- Apply the evaluation planning process during the workshop
- A great beginning

Objectives

Reaction Objectives

After participating in this workshop, you should:

- Perceive the content to be relevant to your work.
- Find the content important to your success on the job.
- Immediately apply the content in your work.
- Find the content to be new information.

Module 1: Introduction and Readiness to Learn

Learning Objectives

After completing this workshop, you should be able to:

- Identify the drivers for ROI accountability.
- Link program objectives to business results.
- Identify at least three ways to collect data.
- Describe at least three ways to isolate the effects of a program.
- Describe at least three ways to convert data to monetary values.
- Identify all costs of a program.
- Calculate ROI, given benefits and costs.
- Identify intangible measures.
- Plan a follow-up evaluation for one of your programs.
- Describe the 12 steps in the ROI Methodology®.

Application Objectives

When you return to your workplace, you should:

- Develop an evaluation plan for a specific program within two weeks.
- Revise/update internal policies on evaluation within 30 days.
- Select appropriate data collection methods when conducting impact studies.
- Use appropriate methods to isolate the effects of programs.
- Use appropriate methods to convert data to monetary values.
- Capture fully loaded costs when conducting an ROI study.
- Calculate the return on investment for a simple ROI study.

Module 1: Introduction and Readiness to Learn

Impact Objectives

Six months after completing this workshop, you should:

- Improve the effectiveness of programs.
- Expand the implementation of successful programs.
- Redesign ineffective programs.
- Improve satisfaction of your stakeholders.
- Improve relationships with key managers and clients.
- Maintain or increase funding for talent development.

Key Questions

- How can I design a practical evaluation strategy that has credibility with all stakeholders?
- How can I collect the type of performance data that will get the attention of senior management?
- How can I get the internal support to design and implement my evaluation strategy?
- How can I proceed if the evaluation reveals an unacceptable ROI?
- How can I convert soft data into a monetary value?
- How can I use the ROI evaluation process to implement a results-based philosophy?
- How can I make cost-effective decisions at each of the five evaluation levels?
- How can I convince clients that my program is linked to business performance measures?

Module 1: Introduction and Readiness to Learn

Case Application: Reliance Insurance Organization

At the end of a monthly staff meeting, Frank Thomas, CEO, Reliance Insurance Organization, asked Marge Thompson, manager of training and development, about the communications workshops that had been conducted with all supervisors and managers throughout the company. These workshops featured the Myers-Briggs Type Indicator (MBTI) and showed participants how to interact with and understand each other in their routine activities. The MBTI classifies people into one of 16 personality types.

Frank continued, “I found the workshop very interesting and intriguing. I can certainly identify with my personality type, but I am curious what specific value these workshops have brought to the company. Do you have any way of showing the results of all 25 workshops?” Marge quickly replied, “We certainly have improved teamwork and communications throughout the company. I hear people make comments about how useful the process has been to them personally.” Frank added, “Do we have anything more precise? Also, do you know how much money we have spent on these workshops?” Marge quickly responded by saying, “I am not sure that we have any precise data and I am not sure exactly how much money we spent, but I can certainly find out.” Frank concluded with some encouragement, “Any specifics would be helpful. Please understand that I am not opposing this training effort. However, when we initiate these types of programs, we need to make sure that they are adding value to the company’s bottom line. Will you let me know your thoughts on this issue in about two weeks?”

Marge was a little concerned about this CEO’s comments, particularly since the CEO enjoyed the workshop and made several positive comments about it. Why was he questioning the effectiveness of it? Why was he concerned about the costs?

Module 1: Introduction and Readiness to Learn

These questions began to frustrate Marge as she reflected over the workshop. She recalled how she was first introduced to the MBTI. She attended the workshop when it was conducted by a friend, was impressed with the instrument, and found it to be helpful as she learned more about her own personality type.

Marge thought the process would be useful to Reliance managers and asked the consultant to conduct a session internally with a group of middle-level managers. With favorable reaction, she decided to try a second group with the top executives, including Frank Thomas. Their reaction was favorable. Then she launched it with the entire staff. The feedback was excellent, including feedback from the CEO.

She realized that the workshops were expensive. Over 600 managers attended. She felt teamwork had improved, but there was no way of knowing for sure. With some types of learning, you never know if it works, she thought. Still, Marge was facing a dilemma. Should she respond to the CEO or just ignore the issue?

Discussion Questions

1. Is this situation typical? Explain.

2. What should Marge do? Be specific.

3. What will Frank be expecting in the future?

4. How could this situation be avoided in the future?

Module 1: Introduction and Readiness to Learn

Definition of Results-Based Programs

- Programs are linked to business needs.
- Performance issues are assessed.
- Learning needs are assessed.
- Objectives are defined at higher levels.
- Expectations are created with stakeholders.
- The transfer of learning is addressed early and often.
- The level of evaluation is established for each program.
- Partnerships are developed with key managers.
- The evaluation is completed, capturing a variety of data.
- Results are communicated to the appropriate stakeholders.

Defining Benefit/Cost Ratio and ROI

$$\text{Benefit Cost Ratio (BCR)} = \frac{\text{Program Benefits}}{\text{Program Costs}}$$

$$\text{Return on Investment (ROI)} = \frac{\text{Program Benefits - Program Costs}}{\text{Program Costs}} \times 100$$

ROI Calculation Example

Program Benefits from Participants (1st year) = $230,000

Costs per Program (25 participants) = $88,000

$$BCR = \frac{\quad}{\quad} =$$

$$ROI = \frac{\quad}{\quad} = x\ 100 =$$

ROI Target Options

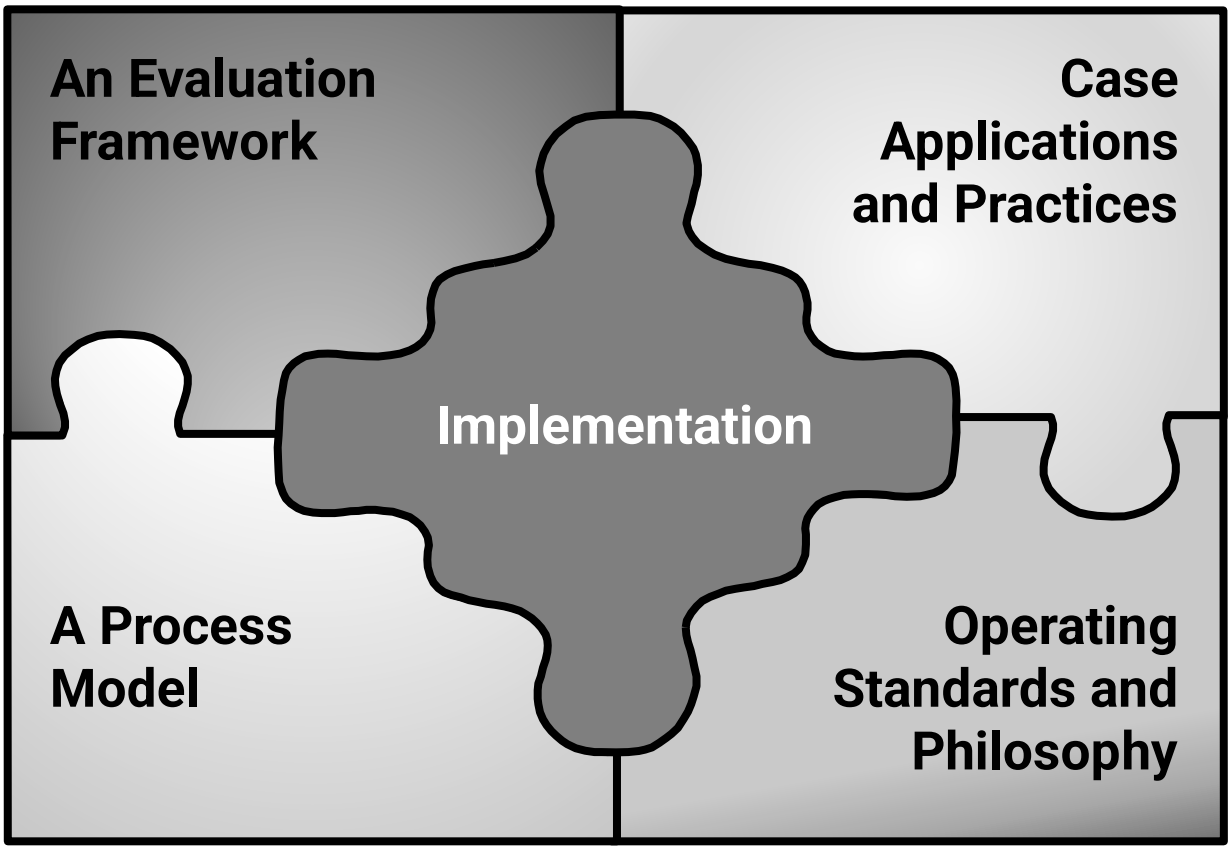
- Set the value as with other investments: i.e., 15 percent
- Set slightly above other investments: i.e., 25 percent
- Set at breakeven: 0 percent
- Set at client expectations

Notes

Module 2:
ROI Methodology

Pieces of the Results-Based Puzzle

Figure 2.1: Results-based puzzle



Notes

Module 2: ROI Methodology

Levels of Evaluation

Performance Improvement Programs, Organization Change Initiatives, Talent Development Programs, Human Resource Programs, Technology Initiatives, Organization Development Initiatives

When looking for evidence of accountability in solutions, the question of what to evaluate is crucial to an organization's evaluation strategy. Probably the most well-known framework for classifying evaluation is to use different levels to determine the type of data to be collected.

Level 0: Input

Level 0 is the input into the process. Input is measured by volume (i.e., the number of people), duration (i.e., total hours of involvement), and costs (i.e., cost per participant). Input data may not always be reported but are always collected.

Level 1: Reaction

The first level of outcome data, Level 1, reaction, is defined as participant perception of the program or project. Reaction is often a critical factor in adjusting or refining the program. Planned actions add another dimension that shows how the participants will implement a new requirement, program, or process, or how they will utilize the capability of new technology. Also, the process of developing planned actions enhances the transfer of the program to the work setting and the internalization of change.

Level 2: Learning

A favorable reaction does not necessarily mean that learning or change will occur. A Level 2 evaluation is concerned with measuring the extent to which principles, facts, processes, procedures, techniques, and skills are learned during the program. Ideally, the measures are objective with quantifiable indicators of how new knowledge and skills are understood and absorbed.

Module 2: ROI Methodology

Level 3: Application

Learning achievement during a program or project does not always result in improved performance or changed behavior on the job. A Level 3 evaluation measures on-the-job behavior change, the use of skills, or the completion of actions after the program has been implemented.

Level 4: Impact

On-the-job changes may not always produce an impact. Impact is the consequence of application and should be measured. A program or project is usually initiated because one or more impact measures needs to improve. A Level 4 evaluation determines the success of the program. Typical measures include costs savings, productivity, cycle time, quality, accidents, turnover, sales, customer satisfaction, employee satisfaction, and customer retention. Level 4 evaluation always involves linking the outcomes of the program to the appropriate business measures. It involves collecting data before and after the program and analyzing the business performance improvement.

Level 5: Return on Investment

An improvement in an impact measure from a program or project may not produce a positive ROI. This ultimate level of evaluation is a comparison of the monetary benefits of the business impact with the cost of the program. This shows the true value of the program in terms of its financial contribution to an organization. It is presented as an ROI value (%) or cost/benefit ratio.

Intangibles

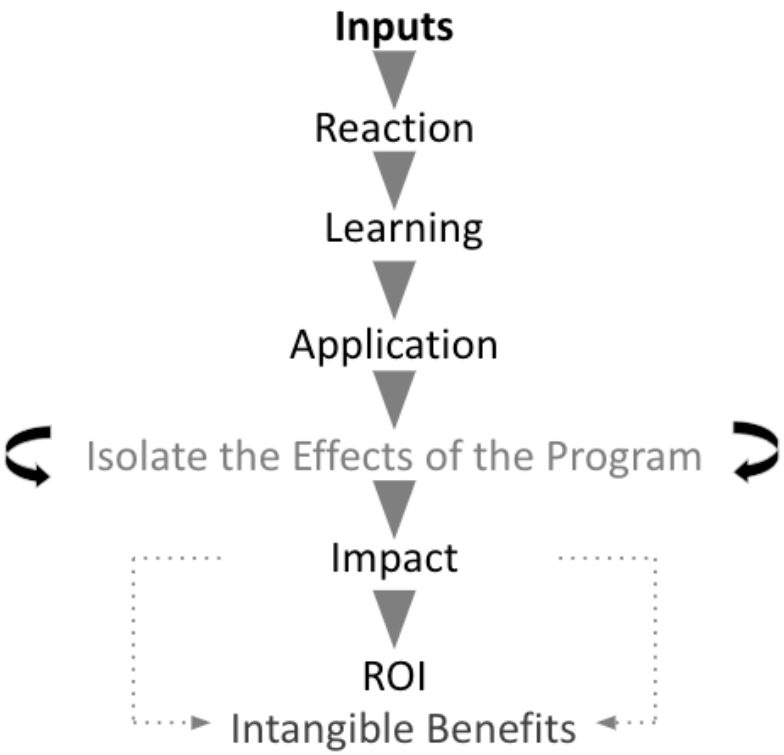
Intangible data are the impact data not converted to monetary value. These do not represent a new category or level of evaluation data. If a data item cannot be converted to money, credibly, and with minimum resources, it is left as an intangible.

Module 2: ROI Methodology

Chain of Impact

The Chain of Impact tells the complete story of program success.

Figure 2.2: Chain of impact



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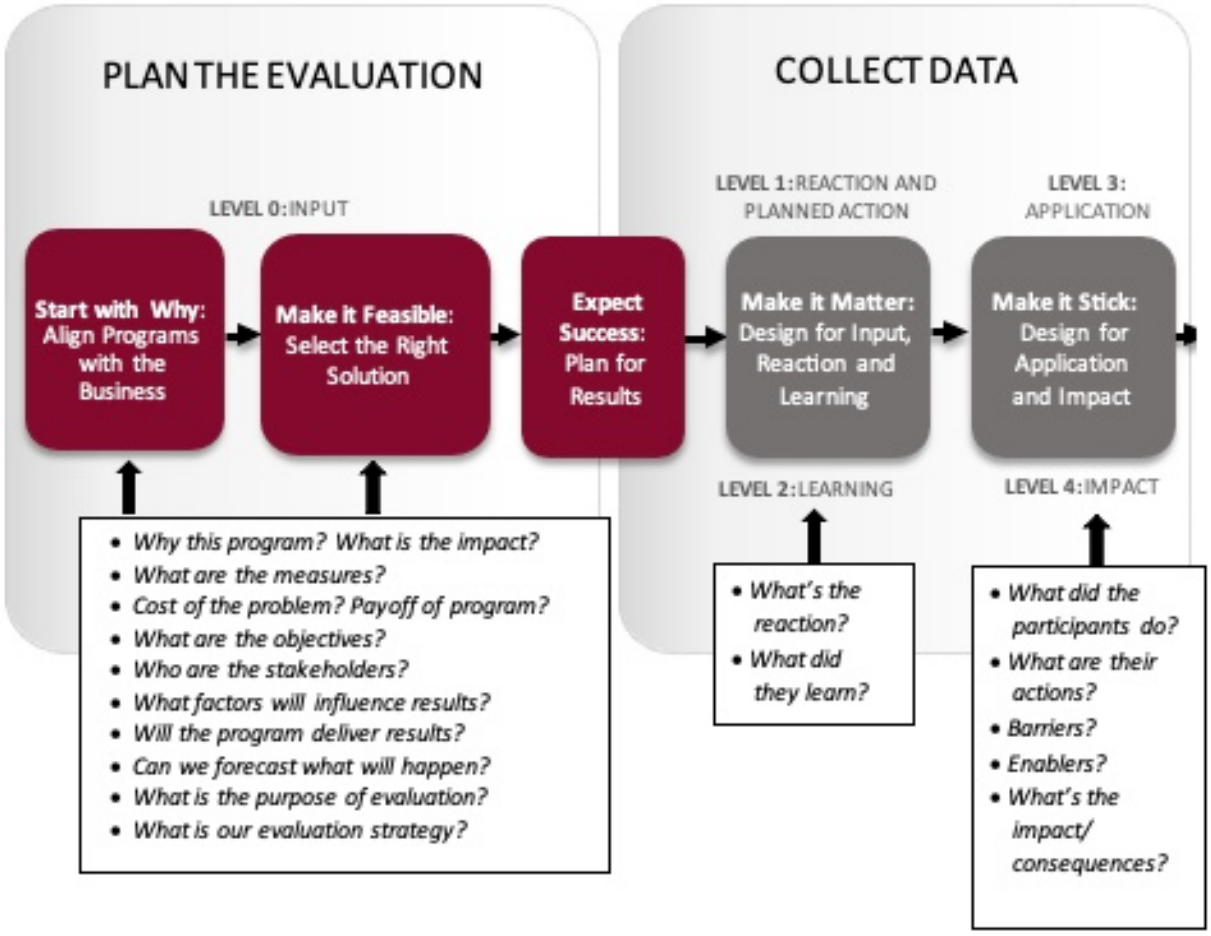
Module 2: ROI Methodology

The ROI Process Model

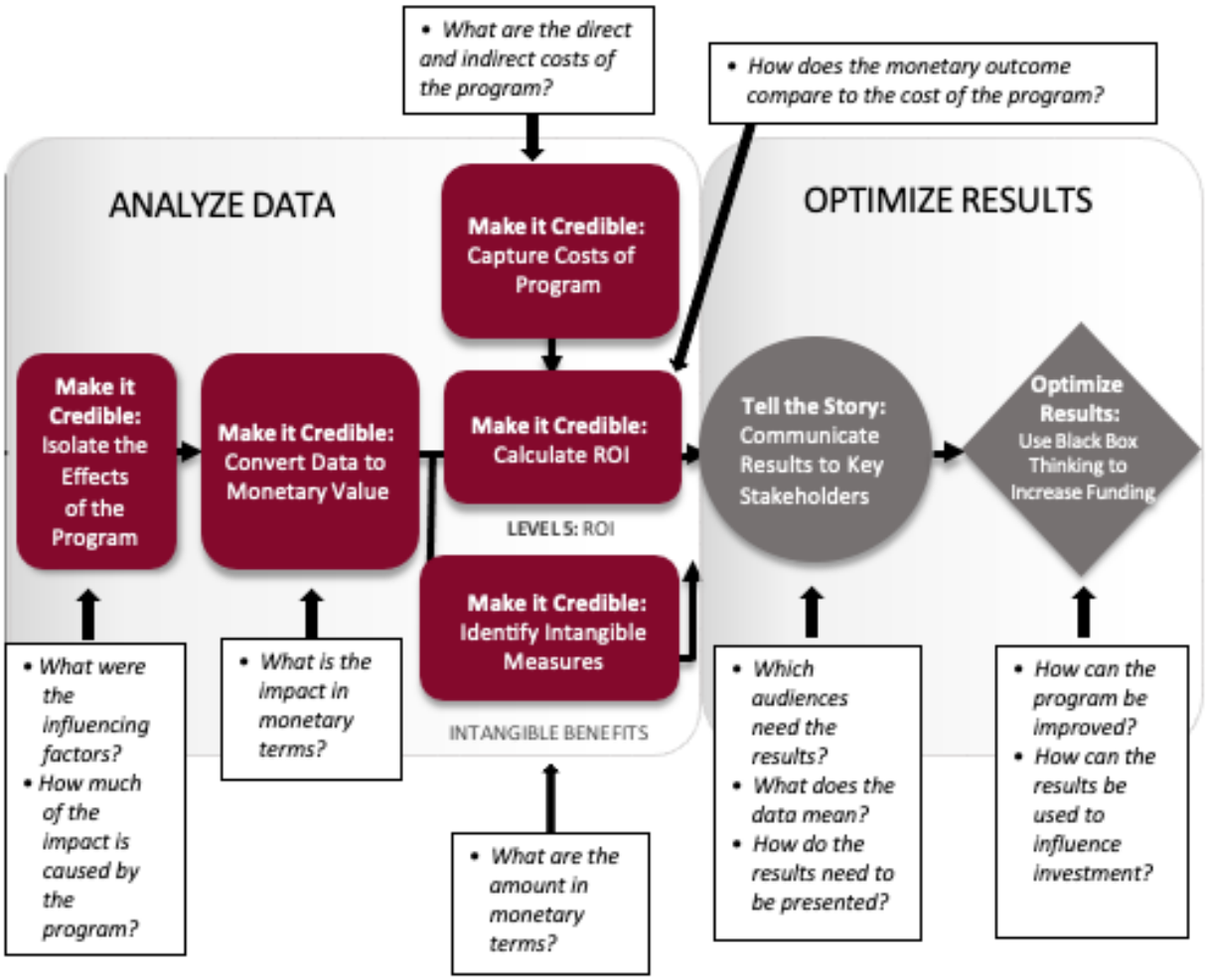
The ROI Methodology is a systematic performance-based process that provides six types of measures (financial and nonfinancial).

Figure 2.3: Steps one through five in the ROI Methodology process



Module 2: ROI Methodology

Figure 2.4: Steps six through 12 in the ROI Methodology process



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Module 2: ROI Methodology

Twelve Guiding Principles

1. When conducting a higher-level evaluation, collect data at lower levels.

2. When planning a higher-level evaluation, the previous level of evaluation is not required to be comprehensive.

3. When collecting and analyzing data, use only the most credible sources.

4. When analyzing data, select the most conservative alternatives for calculation.

5. Use at least one method to isolate the effects of the program or project.

6. If no improvement data are available for a population or from a specific source, assume that no improvement has occurred.

7. Adjust estimates of improvements for the potential error of the estimates.

8. Avoid use of extreme data items and unsupported claims when calculating ROI.

9. Use only the first year of annual benefits in the ROI analysis of short-term solutions.

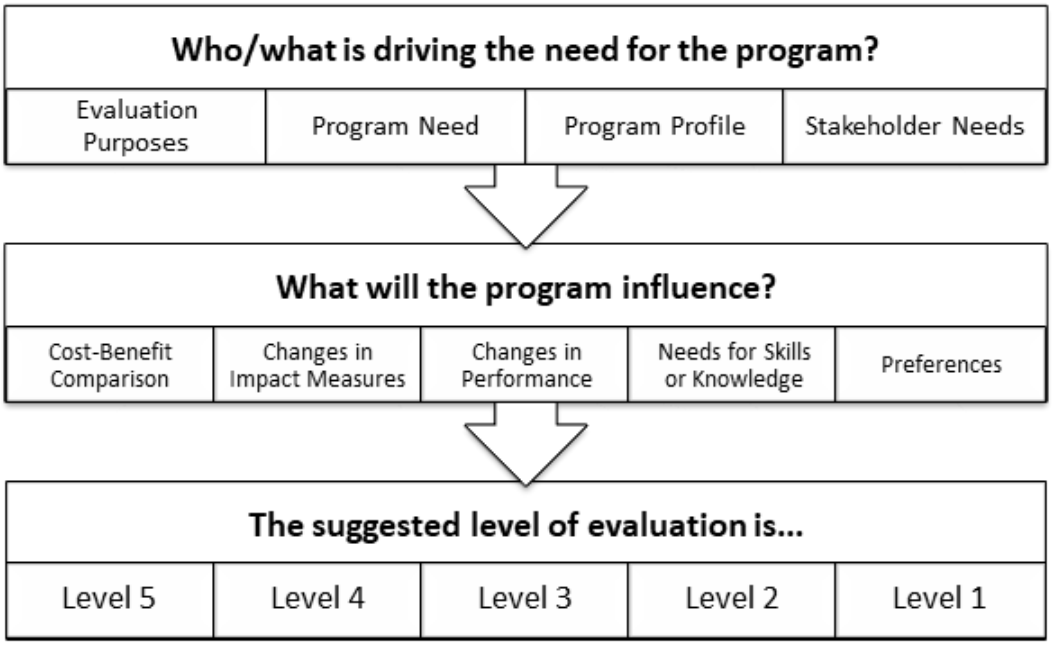
10. Fully load all costs of the solution, project, or program when analyzing ROI.

11. Intangible measures are defined as measures that are purposely not converted to monetary values.

12. Communicate the results of the ROI Methodology to all key stakeholders.

Not All Programs Are Evaluated at All Levels

Figure 2.5: Criteria for selecting programs for evaluation.



Criteria for Level 4 and Level 5 Evaluations

- The cost of the program
- The importance of the program to meet the organization's goals
- The connection of the program to strategic objectives
- The visibility of the program
- The size of the target audience
- The extent of management interest in the program's accountability
- The expected life cycle of the program

Module 2: ROI Methodology

Matching Evaluation Levels With Objectives

For each objective, indicate the level of evaluation at which the objective is aimed.

Level 1: Reaction

Level 2: Learning

Level 3: Application

Level 4: Impact

Level 5: Return on Investment

Table 2.1: Matching levels with objectives exercise

Objective	Level
After completing this program, participants should:	
1. Decrease customer complaints by 20%.	_____
2. Use disciplinary discussion skills in 90% of discussions where work habits are unsatisfactory.	_____
3. Be able to demonstrate the five steps to adjust inventory, given an inventory change order.	_____
4. Rate the facilitator four out of five on presentation skills.	_____
5. Decrease the amount of time required to develop a proposal.	_____
6. Achieve a 20% ROI one year after program implementation.	_____
7. Perceive the content to be relevant to job (4.5 out of 5).	_____
8. Increase the sales on XPS 1330 by 25% in three months.	_____
9. Conduct a proper investigation using the seven-step process in 95% of complaint situations.	_____
10. Score an average of 75 or better on new product quiz.	_____

Module 2: ROI Methodology

The Value Chain

Table 2.2: Current status of measurement

Level	Measurement Category	Current Status	Recommended*	Comments
0	**Inputs/Indicators** Measures the number of programs, attendees, audience, costs, efficiencies.		100%	This is being accomplished now
1	**Reaction** Measures reaction to, and satisfaction with, experience, content, value of program.		100%	Need more focus on content and perceived value
2	**Learning** Measures what participants learned in the program–skills, information, knowledge, contacts (takeaways).		80–90%	Must use simple learning measures
3	**Application** Measures progress after the program–use of information, knowledge, skills, contacts.		30–40%	Need more follow-up
4	**Impact** Measures changes in variables such as output, quality, time, and cost linked to the program.		10–20%	This is the connection to business impact
5	**ROI** Compares the monetary benefits of the business impact measures to the costs of the program.		5–10%	The ultimate level of evaluation

*Recommended minimum percentage of programs evaluated to each level.

Module 2: ROI Methodology

What Can You Do With the ROI Process?

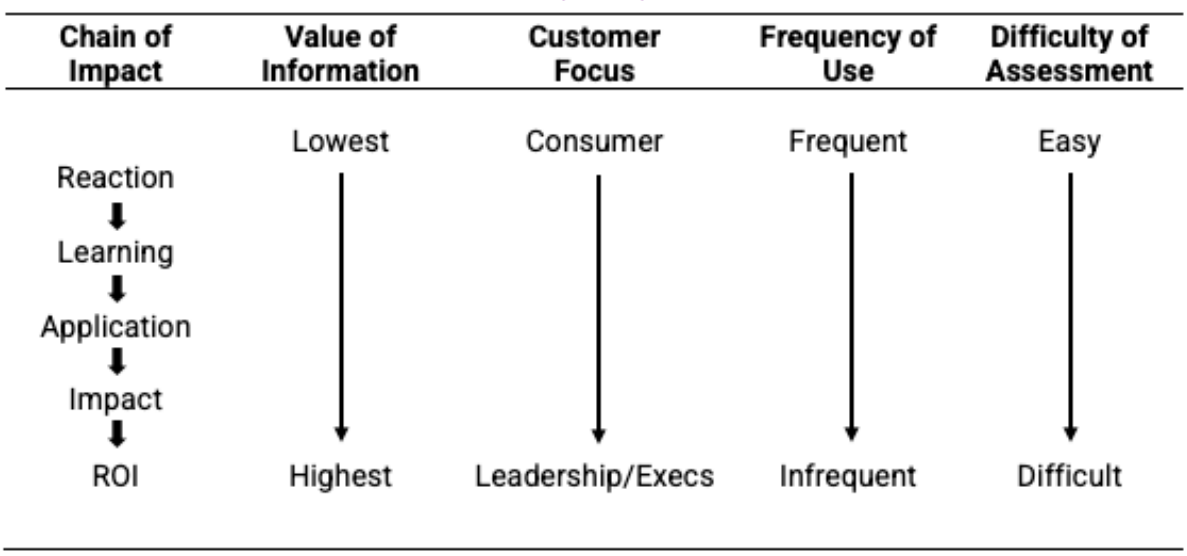
Payoff of the ROI Methodology

- Justify/defend budgets.
- Align programs to business needs.
- Show contributions of selected programs.
- Earn the respect of senior management/administrators.
- Build staff morale.
- Improve support for programs.
- Enhance design and implementation processes.
- Identify inefficient programs that need to be redesigned or eliminated.
- Identify successful programs that can be implemented in other areas.
- Earn a “seat at the table.”

Module 2: ROI Methodology

Characteristics of Evaluation Levels

Figure 2.6: Characteristics for evaluation levels



Customers

- Consumers are customers who are actively involved in the program/solution.
- Clients are customers who fund, support, and approve the program/solution.

Notes

Module 3:
Evaluation Planning

Module 3: Evaluation Planning

Evaluation Planning Worksheet

Below are sample questions to ask in the planning process.

Instructions

Review the criteria for a Level 4/5 evaluation and select a program or project to evaluate at Level 5 (ROI). Document a synopsis of the selected program or project by answering questions 1–14. Reflect on the objectives of the program/project and your stakeholders' needs as you complete the synopsis.

1. Your name: _____
2. Title of program/project: _____
3. Target audience: _____
4. Describe the program or project content (50–75 words):

   _____

   _____

   _____

5. What is the amount of time expected for participants to learn this new skill(s), procedure(s), or task(s)?

   Time to learn behavior/skills with your training? _____ days or ____ months

6. What will likely be the employee reaction to participating in this project? Why?

   _____

   _____

Module 3: Evaluation Planning

7. Describe the methods that will be used to teach employees to implement this program or project (i.e., traditional instructor/facilitator-led, live conference, web-based, blended, coaching, specific assignments, action planning, communication meeting, etc.):

8. What was the primary issue driving this project? (i.e., cost reduction, time reduction, performance or quality improvement, new process/procedure, etc.)

9. How should this implementation affect employee performance on the job? What should be implemented or applied? What should employees be doing differently, better, etc.?

10. What should be the business impact when implementing or completing this project? What business measures will be influenced?

Module 3: Evaluation Planning

11. During the evaluation time frame, what other factors (other than your selected program/project) will influence a change in the business measures identified in Question 10?

12. What are management's expectations of this program or project?

13. Describe any pre-activity for employees prior to this project implementation:

14. Describe any follow-up support planned that will influence project implementation:

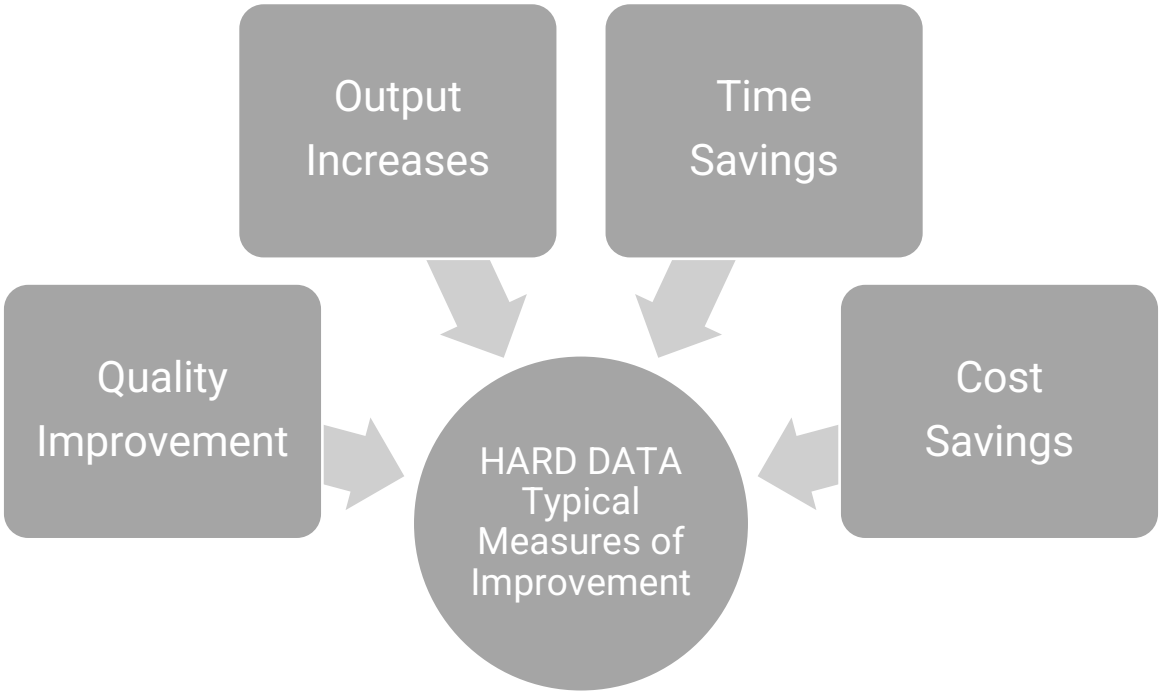
Module 3: Evaluation Planning

Data

Overview of Hard Data

Four Major Categories of Hard Data

Figure 3.1: Characteristics of hard data



Characteristics of Hard Data

Hard data are:

- Easy to measure and quantify
- Relatively easy to assign monetary values
- Objectively based
- A common measure of organizational performance
- Very credible in the eyes of management

Module 3: Evaluation Planning

Examples of Hard Data

Table 3.1: Examples of hard data

Output	Time
Citizens Vaccinated	Length of Stay
Graduation Rate	Cycle Time
Placement Rate	Equipment Downtime
Units Produced	Overtime
Income Increased	On-Time Shipments
Items Assembled	Project Time
Money Collected	Processing Time
Licenses Issued	Supervisory Time
New Accounts Generated	Time to Proficiency
Forms Processed	Time to Graduate
Loans Approved	Meeting Schedules
Inventory Turnover	Repair Time
Criminals Prosecuted	Time to Replace
Inspections Made	Work Stoppages
Applications Processed	Response Time
Patients X-rayed	Late Times
Students Graduated	Lost Time Days
Permits Issued	Wait Time
Projects Completed	
Jobs Secured	
Productivity	
Patients Discharged	

Module 3: Evaluation Planning

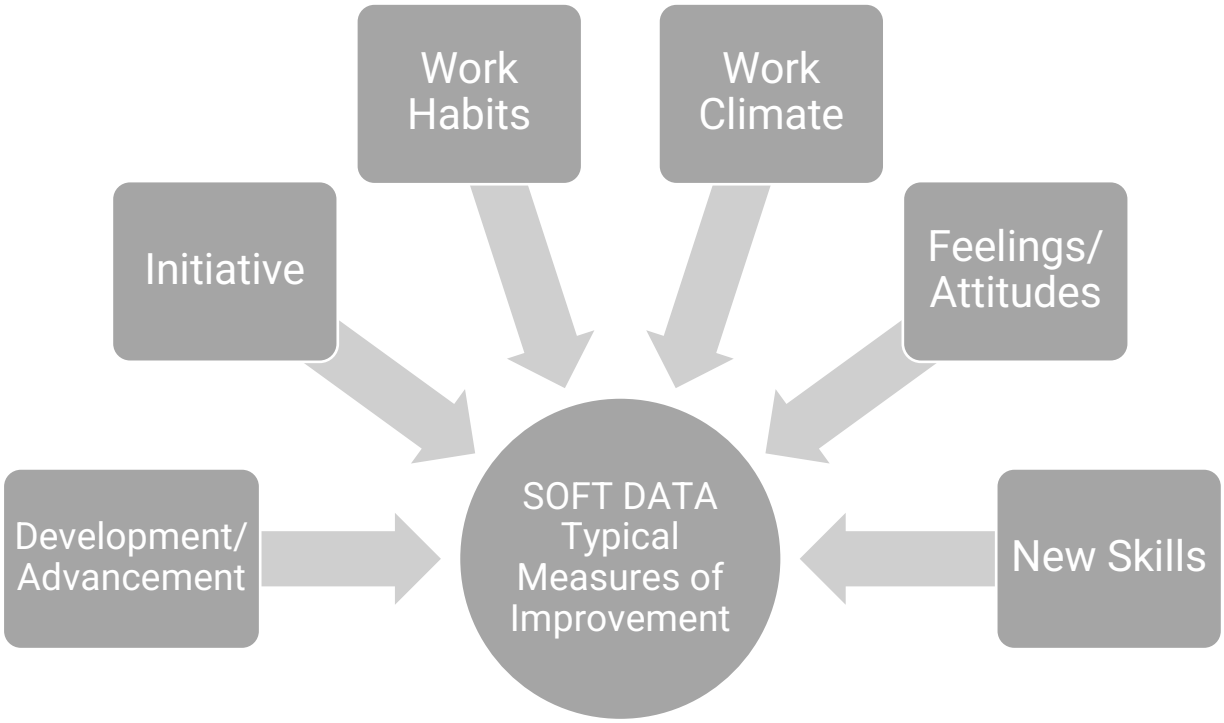
Cost	Quality
Budget Variances	Readmissions
Unit Costs	Failure Rates
Costs by Account	Dropout Rates
Variable Costs	Scrap
Fixed Costs	Waste
Overhead Cost	Rejects
Operating Costs	Error Rates
Program Cost Savings	Rework Required
Accident Costs	Complications
Program Costs	Shortages
Incarceration Costs	Product Defects
Shelter Costs	Deviations From Standard
Treatment Costs	Product Failures
Participant Costs	Inventory Adjustments
Cost Per Day	Infections
	Incidents
	Compliance Discrepancies
	Agency Fines
	Accidents
	Crime Rate

Module 3: Evaluation Planning

Overview of Soft Data

Major Categories of Soft Data

Figure 3.2: Characteristics of soft data



Characteristics of Soft Data

Soft data are:

- Difficult to measure and quantify
- Difficult to assign dollar values
- Subjectively based in many cases
- Less credible as a performance measure
- Typically behavior-oriented

Module 3: Evaluation Planning

Examples of Soft Data

Table 3.2: Examples of soft data

Leadership	Initiative/Innovation
Teamwork Collaborations Networking Communication Alliances Decisiveness Caring Compassion	Creativity New Ideas Suggestions Trademarks Copyrights and Patents Process Improvements Partnerships
Work Climate/Satisfaction	**Employee Development/ Advancement**
Grievances Discrimination Charges Employee Complaints Job Satisfaction Organization Commitment Employee Engagement Employee Loyalty Intent to Leave Stress	Promotions Capability Intellectual Capital Programs Completed Transfers Performance Appraisal Ratings Readiness Development Assignments

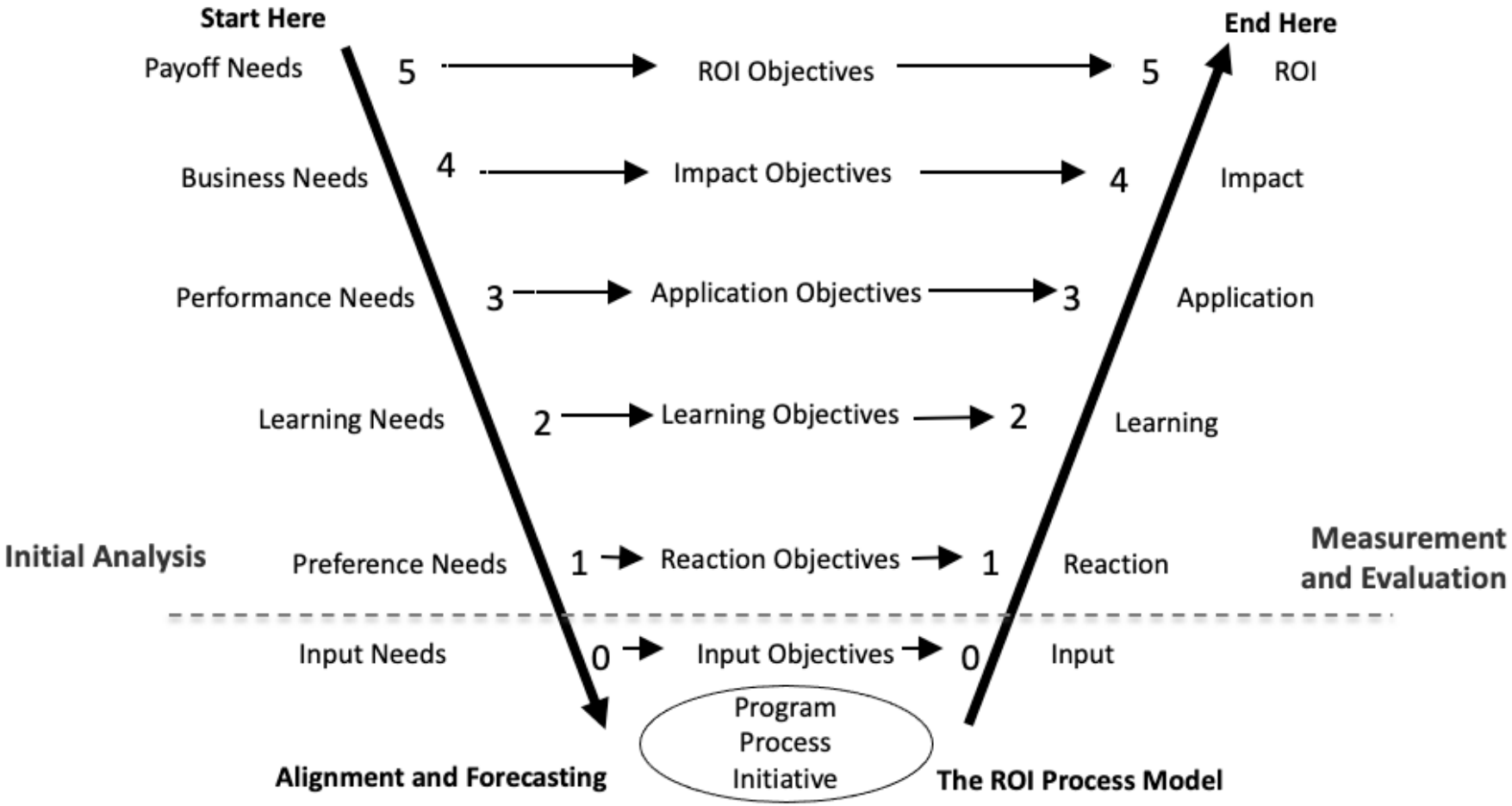
Module 3: Evaluation Planning

Image/Reputation	Client Service
Brand Awareness	Client Complaints
Reputation	Client Satisfaction
Impressions	Client Dissatisfaction
Social Responsibility	Client Impressions
Environmental Friendliness	Client Loyalty
Social Consciousness	Client Retention
Diversity/Inclusiveness	Client Value
External Awards	Clients Lost

Notes

The Alignment Process: V Model

Figure 3.3: The Alignment Process: V Model



Module 3: Evaluation Planning

Figure 3.4: The Alignment Process: V Model

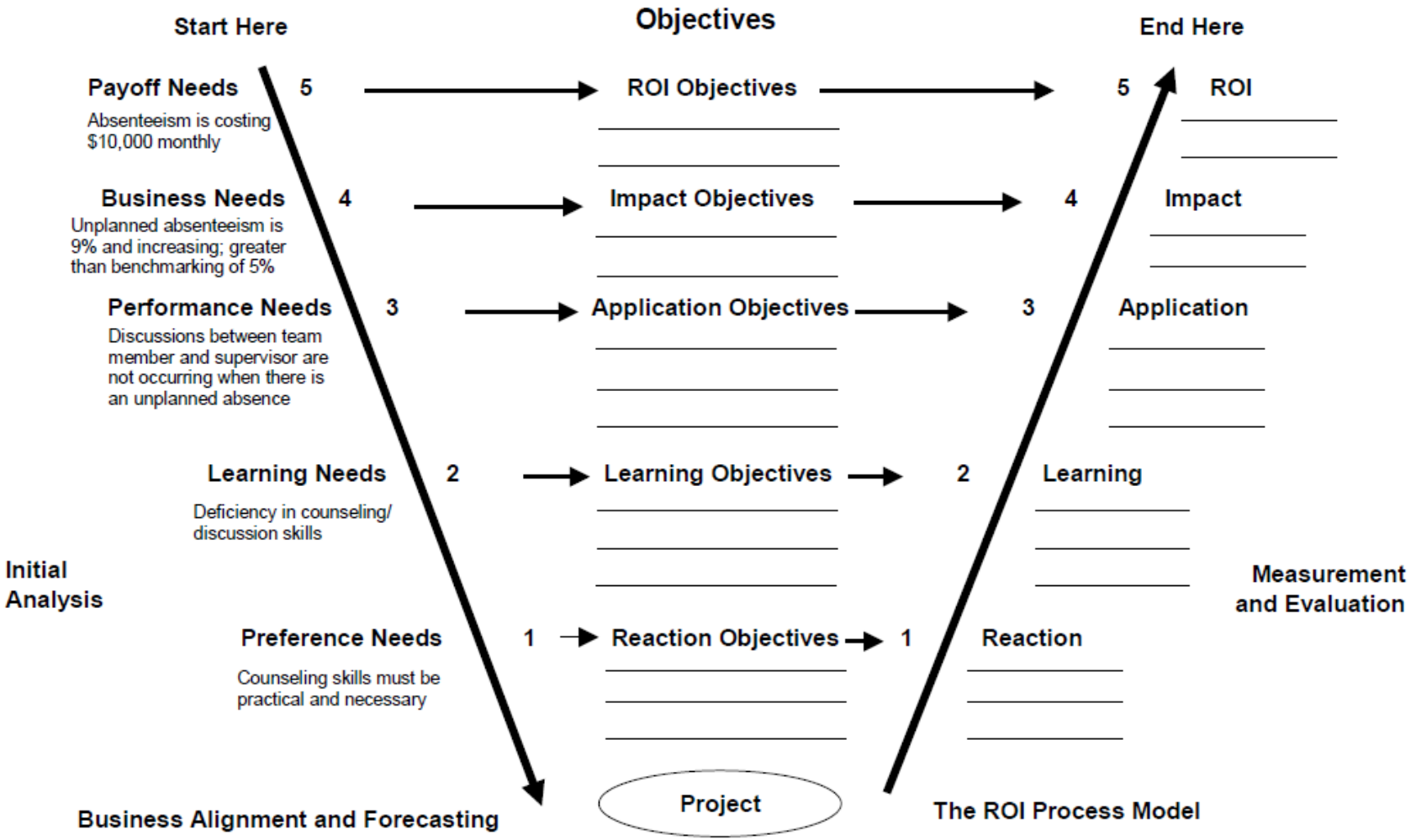
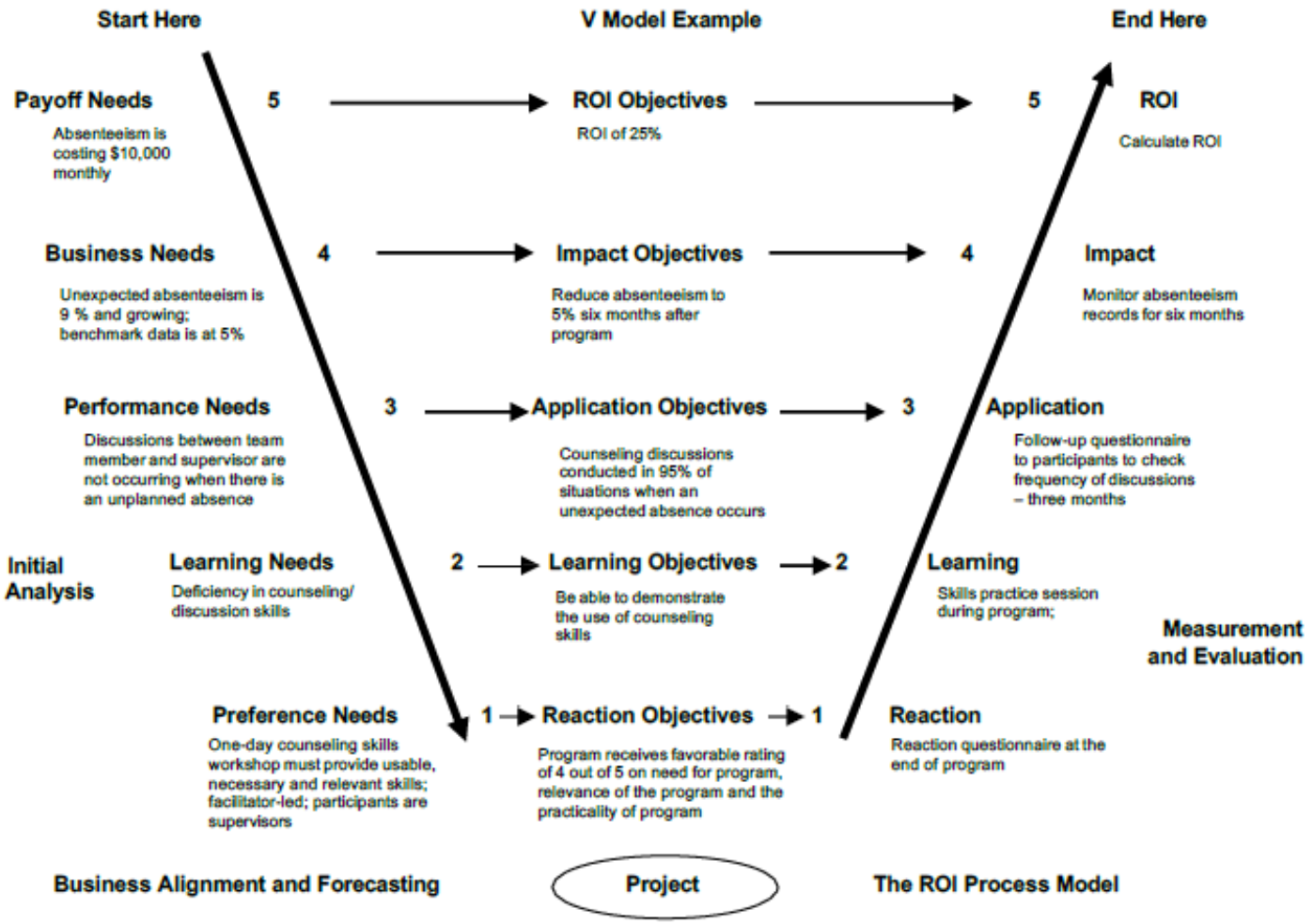


Figure 3.5: The Alignment Process: V Model



Module 3: Evaluation Planning

PCA, Inc.

PCA, a large printing company, has developed a three-day leadership workshop for supervisors and managers with these objectives. After attending this program, participants should be able to:

- Examine their own leadership style.
- Identify and discuss various leadership models and theories.
- Select the appropriate leadership style for a particular situation.
- Serve as a positive role model for appropriate leadership behavior.

Discussion Questions

1. At what levels could you evaluate this program? Please explain.

2. What methods would you use to evaluate at Level 3 and Level 4?

Module 3: Evaluation Planning

API, Inc.

In API, a large printing and publishing company, a detailed needs assessment uncovered four key problems which could be corrected with improved supervisor and managerial leadership skills. These problems included excessive employee turnover, excessive absenteeism, deteriorating quality, and sagging productivity. These measures are monitored in the work unit under the control of a supervisor or manager. Quality and productivity are monitored daily and reported weekly. Absenteeism is reported weekly; turnover is reported monthly, using annualized figures.

As a result of the needs assessment, a three-day leadership workshop for all supervisors and managers was implemented. The workshop focused on building specific leadership skills to enable supervisors and managers to correct the problem areas identified in the needs assessment and secure significant improvements in all four key output variables.

The specific objectives of the leadership program are as follows. After attending this program, participants should:

- Be able to identify and discuss various leadership models and theories.
- Be able to select the appropriate leadership style for a particular situation.
- Serve as a positive role model for appropriate leadership behavior.
- Apply eight out of 10 specific leadership skills every week.
- Reduce employee turnover from an average annual rate of 25 percent to an industry average of 18 percent in one year.
- Reduce absenteeism from a weekly average of 5 percent to 3 percent in six months.
- Improve quality 15 percent in six months.
- Increase productivity 12 percent in six months.

Module 3: Evaluation Planning

Discussion Questions

1. At what levels could you evaluate this program?

2. What methods would you use to evaluate at Level 3 and 4?

3. Is it possible to have specific, time-based objectives for Level 4 evaluations?

Module 3: Evaluation Planning

Matching Evaluation Levels With Objectives

For each objective listed, indicate the level of evaluation at which the objective is aimed.

1. Reaction
2. Learning
3. Application
4. Impact
5. Return on Investment

Table 3.3: Matching levels with objectives exercise

Objective	Level
After completing this program or project, participants should:	
1. Improve work group productivity by 20% in six months.	_____
2. Initiate at least three cost reduction projects in 15 days.	_____
3. Achieve an average cost reduction of $20,000 per project.	_____
4. Use customer service skills in 90% of situations where customers are dissatisfied.	_____
5. Achieve a 2:1 benefit to cost ratio one year after the new gain-sharing program is implemented.	_____
6. Be able to describe the four elements of the employee assistance program.	_____
7. Increase the external customer satisfaction index by 25% in three months.	_____
8. Address customer complaints with the five-step process in 95% of complaint situations.	_____
9. Perceive the absenteeism control policy as fair.	_____

Module 3: Evaluation Planning

Objective	Level
10. Achieve a leadership simulation score average of 75 out of a possible 100.	_____
11. Conduct a performance review meeting in two weeks with direct reports to establish performance improvement goals.	_____
12. Provide a four out of five rating on appropriateness of new ethics policy.	_____
13. Decrease the time to recruit new engineers from 35 days to 20 days.	_____
14. Complete steps in action plans in three months.	_____
15. Provide a positive reaction to flextime work schedule system.	_____
16. Be involved in career enhancement program at a rate of 15% of employees.	_____
17. Decrease the amount of time required to complete a project by an average of two days in three months.	_____
18. Achieve a post-test score increase of 30% over pre-test.	_____
19. Use new software daily as reflected by an 80% score on an unscheduled audit of use.	_____
20. Submit ideas/suggestions for improvement in the first year (10% of employees).	_____

Module 3: Evaluation Planning

Developing Objectives for Each Level

Table 3.4. Levels of objectives

Level of Objectives	Focus of Objectives
Level 1, Reaction	Defines specific measures of expected reaction to the program as it is revealed and communicated to the stakeholders
Level 2, Learning	Defines specific measures of improvement in knowledge, information, contacts, and skills as the participants and other stakeholders learn how to make the program successful
Level 3, Application	Defines specific measures of actions taken that define success with application and implementation of the program
Level 4, Impact	Defines the specific impact measures that will change or improve because of the program's implementation
Level 5, ROI	Defines the minimum return on investment from the program, comparing program costs with monetary benefits from the program

Notes

Module 3: Evaluation Planning

Rules for Objectives[1]

1. Must be measurable and represent minimum acceptable performance.
2. Fewer objectives are better than many objectives.
3. Involve subject-matter experts and key stakeholders.
4. Keep objectives relevant to the situation, program, and key stakeholders.
5. Create stretch objectives, but make sure they are achievable.
6. Allow for the flexibility to change as conditions change.
7. Failure is OK; process improvement is the key.
8. Objectives are tools for progress, not weapons for performance review.
9. Most objectives should be time-bound.
10. Objectives provide the focus for design, development, implementation, and evaluation.

[1] These rules are from a combination of publications:

- J. J. Phillips and P. P. Phillips. *Beyond Learning Objectives: Develop Measurable Objectives that Link to the Bottom* Line. Alexandria, VA: ASTD Press. 2008.
- P. P. Phillips and J. J. Phillips. *10 Steps to Successful Business Alignment*. Alexandria, VA: ASTD Press. 2012.
- J. Doerr. *Measure What Matters: How Google, Bono, and the Gates Foundation Rock the World with OKRs*. New York: Penguin. 2018.

Module 3: Evaluation Planning

Developing Reaction and Satisfaction Objectives

Measuring Reaction

Reaction Objectives Are Critical in This Measurement Chain

- They describe expected immediate and long-term satisfaction.
- They describe issues that are important to the success of the program.
- They provide basis for evaluating the beginning of the measurement chain of impact.
- They place emphasis on planned action, if feasible.

Best Reaction Objectives

- Identify issues that are important and measurable.
- Are attitude-based, clearly worded, and specific.
- Underscores the linkage between attitude and the success of the program.
- Represents a satisfaction index from key stakeholders.
- Have the capability to predict program success.

Typical Reaction Objectives

At the end of the program, participants should rate each of these statements at least a four out of five on a five-point scale:

- The program is relevant to my (our) situation.*
- The facilitators/organizers were effective.
- The program is valuable to this mission, cause, or organization.*
- The program is important to my (our) success.*
- The program is motivational for me (us).

- The program is practical.
- The program contained new information.
- The program represented an excellent use of my time.*
- I will recommend the program to others.*
- I will use the concepts and materials from this program.*

*The measures will usually correlate with application.

Developing Learning Objectives

Measuring Knowledge and Skills Enhancement

Learning Objectives Are Critical to Measuring Learning

- Describe competent performance that should be the result of learning.
- Provide basis for evaluating learning.
- Communicate expected outcomes from facilitation.

Best Learning Objectives

- Describe behaviors or actions that are observable and measurable.
- Are outcome-based, clearly worded, and specific.
- Specify what the participant must do (not know or understand) as a result of the program.
- Have three components:
    - Performance—what the participant will be able to do at the end of the program.
    - Condition—circumstances under which the participant will perform the task.
    - Criteria—degree or level of proficiency that is necessary to perform the job.

Module 3: Evaluation Planning

Typical of Learning Objectives

After completing the program, participants will be able to:

- Complete the leadership simulation in 15 minutes.
- Identify the six features of the new ethics policy.
- List five benefits of healthy living.
- Demonstrate the use of each software routine in the standard time.
- Score 75 or better in 10 minutes on the new-product quiz on the first try.
- Demonstrate all five customer-interaction skills with a four out of five success rating.
- Explain the five benefits of diversity in a work group in five minutes.
- Score at least nine out of 10 on a sexual harassment policy quiz.
- Identify five new technology trends presented at the conference.

Developing Application Objectives

Measuring Application and Implementation

Application Objectives Are Critical to Measuring on-the-Job Success

- Describe expected intermediate outcomes.
- Describe competent performance that should be the result of the program.
- Provide basis for evaluation of on-the-job performance changes.
- Place emphasis on applying what was learned.

Best Application Objectives

- Identify behaviors and actions that are observable and measurable.
- Are outcome-based, clearly worded, and specific.
- Specify what the participant will change as a result of the program.

Module 3: Evaluation Planning

Typical Application Objectives

When the program is implemented:

- Ninety-five percent of high-potential employees will complete the steps of their individual development plans within two years.
- At least 50 percent of participants will join a hiking/walking group in 20 days.
- At least 99.1 percent of software users will be following the correct sequences after three weeks of use.
- Diabetic patients will implement three of the four critical behaviors in 30 days.
- Participants will take steps to engage team members each day.
- Sexual harassment activity will cease within one month after a zero-tolerance policy is implemented.
- Customer service representatives will use all five interaction skills with at least half the customers within the next month.
- The average 360-degree leadership assessment score will improve from 3.4 to 4.1 on a five-point scale in 90 days.

Developing Impact Objectives

Measuring Business Impact

Impact Objectives Are Critical to Measuring Business Performance

- Describe expected ultimate outcomes.
- Describe business unit performance that should improve as a result of the program.
- Provide basis for measuring the consequences of application of skills, knowledge, and actions.
- Place emphasis on achieving bottom-line results.

Best Impact Objectives

- Must contain measures that are linked to the program.

- Describe measures that are easily available and collected.
- Are results-based, clearly worded, and specific.
- Specify the outcomes in the work unit or business unit as a result of the participant applying the content of the program.

Typical Impact Objectives

After program completion, these conditions should be met:

- Turnover of high-potential employees should be reduced to 10 percent in nine months.
- After nine months, grievances should be reduced from 30 per month to no more than five per month in six months at the VA center.
- Incidents of malaria should reduce by 17 percent in one year.
- Complaints of excessive force by police should reduce by 10 percent in six months.
- The average number of new accounts should increase from 300 to 350 per month in six months.
- Unplanned absenteeism of call center associates should decrease by 30 percent within the next calendar year.
- At least 90 percent of microfinance loans will be paid back on schedule.
- A 20 percent reduction in overtime should be realized for staff in the third quarter of this year.
- Citizen complaints should be reduced from an average of three per day to an average of one per day.
- Process time for work visas will be reduced by 30 percent in two months.
- By the end of the year, the average number of product defects should decrease from 210 per month to 150 per month.
- Product returns per month should decline by 15 percent in six months.

Module 3: Evaluation Planning

Developing ROI Objectives

Defining the ROI Calculation

$$\text{Benefit Cost Ratio (BCR)} = \frac{\text{Program Benefits}}{\text{Program Costs}} =$$

$$\text{ROI (\%)} = \frac{\text{Program Benefits - Program Costs}}{\text{Program Costs}} \times 100$$

Exercise:

Costs per program (25 participants) = $80,000

Benefits per program (1st year) = $240,000

Benefit Cost Ratio (BCR) = _____ = _____

ROI = _____ x 100 = _____ %

ROI Objective Options

1. Set the value at the same level as other investments: 15 percent.
2. Set slightly above other estimates: 25 percent.
3. Set at breakeven: 0 percent.
4. Set at client expectations.

Private sector organizations usually go with option #2; public sector organizations prefer #3.

Module 3: Evaluation Planning

Collecting Baseline Data

Ask the Client

- What do you (the client) want to change?
    - What will it look like when it has changed?
    - How does it look now?
    - What direct measures reflect the change? (output, quality, cost, time)
    - What indirect measures reflect the change?
    - Who can provide information about the relationship between training and the business measures?
    - What other factors will influence these business measures?
    - What solutions have you tried?
- Determine if baseline data is available from organization records.
- If the organization does not have baseline data, determine whether it can be estimated by participants or others.
- Determine the timing for the baseline data collection.
- Collect baseline data as appropriate.

Developing Evaluation Strategy and Plans

Planning Documents

Two documents form the basis of evaluation planning. Samples are included in the Appendix.

- Data Collection Plan
- ROI Analysis Plan

Module 3: Evaluation Planning

Factors to Consider When Developing an Evaluation Planning Strategy

- Location of participants
- Duration of program
- The importance of program in meeting organizational objectives
- Relative investment in the program
- The reason for the program's existence
- Ability of participants to be involved in evaluation
- The level of management interest and involvement in the process
- The content and nature of the program
- Interest in evaluation by senior management
- The availability of business results measures

Data Collection Plan

Figure 3.6: Data Collection Plan

Program: _____ Responsibility: _____ Date: _____

Level	Objectives	Measures/ Data	Data Collection Method	Data Sources	Timing	Responsibilities
1	Reaction/ Satisfaction					
2	Learning					
3	Application					
4	Impact					
5	ROI	Notes:				

ROI Analysis Plan

Figure 3.7: ROI Analysis Plan

Program: _____ Responsibility: _____ Date: _____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/Issues During Application	Comments

Module 3: Evaluation Planning

Case Application: Retail Merchandise Company

A Case on Measuring Return-on-Investment on Interactive Selling Skills Training

This case was prepared to serve as a basis for discussion rather than to illustrate either effective or ineffective administrative and management practices.

Source: *In Action: Measuring Return on Investment* - Volume 3. Patricia Pulliam Phillips, PhD, Editor, Jack J. Phillips, PhD, Series Editor. ATD, Alexandria, VA, 2001.

Situation

Retail Merchandise Company (RMC) is a large national chain of 420 stores, located in most major US markets. RMC sells small household items, gifts of all types, electronics, and jewelry as well as personal accessories. It does not sell clothes or major appliances. The executives at RMC have been concerned about the slow sales growth and have been experimenting with several programs to boost sales. One of the concerns focused on the interaction with customers. Sales associates were not actively involved in the sales process, usually waiting for a customer to make a purchasing decision, and then proceeding with processing the sale. Several store managers have analyzed the situation to determine if more communication with the customer would boost sales. The analysis revealed that the use of very simple techniques to probe and guide the customer to a purchase should boost sales in each store.

The senior executives asked the learning and development function to experiment with a very simple customer interactive skills program for a small group of sales associates. A program produced by an external supplier would be preferred to avoid the cost of development, particularly if the program is not effective. The specific charge from the

management team was to implement the program in three stores, monitor the results, and make recommendations.

If the program increased sales and presented a significant payoff for RMC—then it should be implemented in other stores. The sales associates are typical of the retail store employee profile. They are usually not college graduates, and most have a few months of retail store experience. Turnover was usually quite high, and formal training has not been a major part of previous sales development efforts.

Solution

The learning and development staff conducted very brief initial needs assessment and identified five simple skills that would need to be covered in the program. From their analysis, it appeared that the sales associates did not have these skills or were very uncomfortable with the use of these skills. A program called “Interactive Selling Skills” was selected—a program with significant use of skill practices. The program had two days of training, where participants had an opportunity to practice each of the skills with a fellow classmate, followed by three weeks of application on the job. Then, a final day of training was conducted that included a discussion of problems, issues, barriers, and concerns about using the skills. Additional practice and fine-tuning of skills were a part of that final one-day session. The program, an existing product from an external supplier, would be tried in the electronics area of three stores and 16 people would be trained in each store. The program was taught by the staff of the supplier for a predetermined facilitation fee.

Module 3: Evaluation Planning

Discussion Questions

1. Which types of data does the senior management team desire?

2. How should data be collected for application and business impact measurement?

3. Which method should be utilized to isolate the effects of the program?

4. How should the business impact data be converted to monetary values?

Module 4:
Data Collection

Module 4: Data Collection

Collecting Data During Implementation

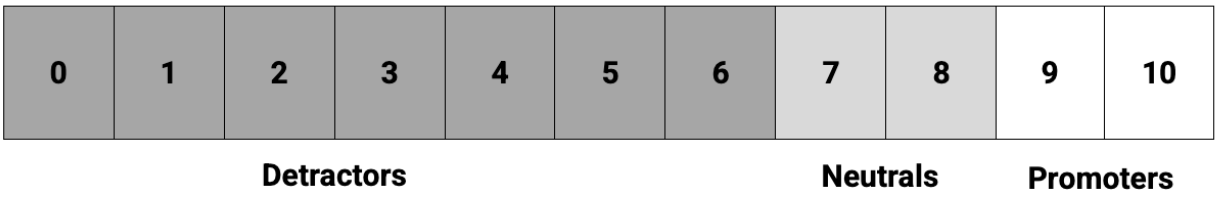
Level 1 Target Areas

Target Areas

- Relevance of content to my work
- Importance to my success
- Amount of new information
- Would recommend to others
- Instructional materials
- Method of delivery
- Instructor/facilitator performance
- Facilities/learning environment
- Overall evaluation
- Planned application/ improvements

Figure 4.1: Net promoter score

On a scale from 0 to 10, how likely are you to recommend this program to others in a similar position as yours?



NPS = Promoters - Detractors

Why did you score the way you scored?

Module 4: Data Collection

NPS was created by Fred Reichheld and Bain and Company. It was developed to measure and manage customer loyalty. It predicts overall company growth and customer lifetime value. For talent development programs, the relationship between NPS and application and impact has not yet been shown to the same extent. However, it can be a useful measure.

Improving Level 1 Evaluation

- Consider an ongoing evaluation.
- Try quantifying course ratings.
- Allow ample time for providing feedback.
- Use the data in constructive ways.
- Collect information related to improvement.

Common Uses of Level 1 Data

- Determine participant satisfaction level with the program.
- Identify the strengths and weaknesses of the programs.
- Evaluate facilitator’s performance.
- Determine participant needs.
- Develop norms and standards.
- Obtain quantitative data that can be communicated to management.

Module 4: Data Collection

- Analyze quantitative data that can be used to establish performance standards for future programs.
- Evaluate planned improvements.
- Link with follow-up data.
- Decide who should participate in future programs.

Planned Improvement Questions for Feedback Questionnaires

Planned Improvements (Example)

1. As a result of this program, what do you estimate to be the increase in your personal effectiveness expressed as a percent? (0% = No Improvement,

   100% = Maximum Improvement) _____%

2. Please indicate what you will achieve because of this program (be specific).
3. As a result of any change in your thinking, new ideas, or planned actions, please estimate the benefit to your organization (i.e., reduced errors, reduced cycle time, increased productivity, reduced costs, etc.).
   - What is the annual monetary value? $ _____
   - What is the basis of this estimate?
   - What confidence, expressed as a percentage, can you put in your estimate? (0% = No Confidence; 100% = Certainty) _____%

Module 4: Data Collection

Techniques for Measuring Learning

Table 4.1: Commonly used techniques for measuring learning

Commonly Used Techniques		
Formal Testing	**Simulation**	**Less Structured**
• Objective testing • Criterion-referenced testing • Performance testing	• Electrical/mechanical simulation • Task simulation • Business games • In-basket • Case studies • Role playing • Assessment center method	• Exercises/activities • Self-assessment • Team assessment • Consultant/facilitator assessment

Common Uses of Level 2 Data

Data Uses

- Provide individual feedback to build confidence.
- Ensure that learning has been acquired.
- Improve programs.
- Evaluating instructors/facilitators.

Module 4: Data Collection

Collecting Data After Implementation

Matching Applications of Data Collection Instruments

For each of these situations, please indicate the most appropriate type of instrument being used to collect data needed in the program's evaluation. Select from these types:

A. Survey
B. Test
C. Questionnaire
D. Interview
E. Focus Groups
F. Observation
G. Performance Records

Write the instrument's letter in the box to the right of each example. Then indicate the level of evaluation pursued (1, 2, 3, or 4).

Table 4.2: Matching applications of data collection instruments

	Instrument	Level
1. Customer service representatives have learned to resolve customer complaints in the most effective manner. An integral part of the program required customer service representatives to follow a series of planned steps to resolve the complaint, using empathy and listening skills. As part of the evaluation, the HR staff must determine the extent to which participants are utilizing the newly acquired skills.	_____	_____

Module 4: Data Collection

	Instrument	Level
2. Intact team members are involved in a conflict resolution program where they acquired skills to resolve conflicts and disputes among themselves. Team members in this work group have a high degree of interaction and some responsibilities include checking the work of others. There had been an unusually high level of friction with displays of open conflicts in the group. In the program, participants learned how to deal with these issues and work together as a smooth operating team. The HR staff needs to collect information about the group's progress with the use of skills, ideally in an environment where there is an opportunity for group members to listen to comments from others.	_____	_____
3. Technicians participate in an e-learning program on basic mathematics and are required to achieve a pre-determined level of competency in mathematics after completing the program. The HR staff measures the level of mathematical ability before and after the program.	_____	_____
4. The front desk staff at a major hotel has participated in a program to teach them how to use a new reservation system that is being installed. As part of the evaluation, it is important to obtain reactions to the program and capture planned actions and a forecast.	_____	_____
5. A company has implemented a new compensation plan in which the team members share in the overall profits of the company. Team members have attended a roll-out meeting where they learned how the program works and what is required of them to make it successful. As part of the evaluation, management is interested in finding out what the employees think about the new plan after attending the briefing.	_____	_____

	Instrument	Level
6. Sales representatives have a new commission program designed to improve sales. One objective of the program is to improve sales volume and the HR staff must determine exactly what increase was achieved by everyone since the program was conducted.	_____	_____
7. Supervisors attended a program where they learned a logical approach to solving significant problems facing their work units. As a part of the program's evaluation, the HR staff needs feedback from participants concerning their use of the acquired skills. The staff thinks there is a possibility of a success story here and will need to probe for details.	_____	_____

Methods of Collecting Follow-Up Data

Table 4.3: Data collection methods

	Level 3	Level 4
Follow-up surveys	X	
Follow-up questionnaires	X	X
Observation on the job	X	
Follow-up interviews	X	
Follow-up focus groups	X	
Action planning	X	X
Performance contracting	X	X
Program follow-up session	X	X
Performance records		X

Module 4: Data Collection

Follow-Up Questionnaire Content Checklist

1. Progress With Objectives
2. Action Plan Implementation
3. Relevance of Program
4. Use of Materials
5. Knowledge/Skill Enhancement
6. Skills Used
7. Changes With Work
8. Improvements/Accomplishments **Levels 4–5**
9. Monetary Impact
10. Improvement Linked With Program
11. Confidence Level
12. Investment Value
13. Linkage With Output Measures
14. Other Benefits
15. Barriers
16. Enablers
17. Management Support
18. Other Solutions
19. Recommendations for Target Audiences
20. Suggestions for Improvement
21. Other Comments

What other items might you include on a follow-up questionnaire?

Questionnaire Items Example: Cyber International

Impact Questionnaire for the Advantage Leadership Development Program for Cyber International

NOTE: *This example is used to illustrate a sampling of questions that may be asked on a follow-up questionnaire. It does not represent a document that is ready for implementation.*

Instructions

Please complete this questionnaire as promptly as possible and return it to the address shown on the last page. To provide responses, you will need to reflect on the Advantage Leadership Development Program and think about specific ways in which you have applied what you learned from each session. It may be helpful to review the materials from each session.

Please take your time as you provide responses. Accurate and complete responses are very important. You should be able to provide thorough responses in about 20 minutes.

You will need your action plan as you respond to several items on the questionnaire. Please review the action plan and make sure that each page is accurate and complete. Attach a copy of the action plan to the questionnaire when it is returned.

Please be objective in providing responses. In no way will your name be linked to your input. Your questionnaire and action plan will be viewed only by a representative from an outside firm, The ROI Institute. Specific responses or comments related to any individual will not be communicated to either your employer or Advantage, Inc.

Your responses will help determine the impact of this program. In exchange for your participation in this evaluation, a copy of a report summarizing the success of the entire class will be distributed to you within a couple of months. Please make sure that your input is included with all your classmates.

Should you need clarification or more information, please contact your instructor, your Cyber International representative, or a representative from ROI Institute.

Module 4: Data Collection

Are you currently in a supervisory or management role/capacity?

☐ Yes

☐ No

1. Table Questionnaire-1 lists the objectives of the Leadership Program. After reflecting on the program, please indicate your degree of success in achieving these objectives. *Please check the appropriate response beside each item*.

Table Questionnaire-1

Skill/ Behavior	No Success	Very Little Success	Limited Success	Generally Successful	Completely Successful
Apply the Advantage 11-step goal-setting process	☐	☐	☐	☐	☐
Apply the Advantage 12-step leadership planning process	☐	☐	☐	☐	☐
Identify the 12 core competencies of outstanding leaders	☐	☐	☐	☐	☐
Identify 10 ways to create higher levels of employee loyalty and satisfaction	☐	☐	☐	☐	☐
Apply the concept of deferred judgment in five scenarios	☐	☐	☐	☐	☐

Module 4: Data Collection

Skill/ Behavior	No Success	Very Little Success	Limited Success	Generally Successful	Completely Successful
Apply the Advantage creative problem-solving process to an identified problem	☐	☐	☐	☐	☐
Identify the seven (7) best ways to build positive relationships	☐	☐	☐	☐	☐
Given a work setting situation, apply the Advantage four-step approach to deal with errors	☐	☐	☐	☐	☐
Practice six (6) ways to improve communication effectiveness	☐	☐	☐	☐	☐

2. Did you implement on-the-job action plans as part of the Leadership Program?

   ☐ Yes

   ☐ No

   If yes, complete and return your Action Plans with this questionnaire. If not, please explain why you did not complete your Action Plans.

3. Please rate, on a scale of 1–5, the relevance of each of the program elements to your job, with (1) indicating no relevance, and (5) indicating very relevant.

Module 4: Data Collection

Table Questionnaire-2

	No Relevance				**Very Relevant**
Group (Class) Discussions	☐	☐	☐	☐	☐
Small Team Discussions	☐	☐	☐	☐	☐
Skill Exercises (scenarios, role plays, etc.)	☐	☐	☐	☐	☐
Program Content	☐	☐	☐	☐	☐
Coaching and Critique	☐	☐	☐	☐	☐
Special Projects (leadership plan, job description, time log, money saving, etc.)	☐	☐	☐	☐	☐

4. Have you used the materials since you participated in the program?

   ☐ Yes

   ☐ No

   Please explain.

5. In these result areas, please indicate the level of improvement during the last few months as influenced by your participation in the Leadership Program. *Check the appropriate response beside each item*.

Module 4: Data Collection

Table Questionnaire-3

Result Area	No Opportunity to Apply	No Change	Some Change	Moderate Change	Significant Change	Very Significant Change
A. ORGANIZING						
Prioritizing daily activities	☐	☐	☐	☐	☐	☐
Applying creative techniques	☐	☐	☐	☐	☐	☐
Organizing daily activities	☐	☐	☐	☐	☐	☐
Raising level of performance standards in area of responsibility	☐	☐	☐	☐	☐	☐

Table Questionnaire-4

Result Area	No Opportunity to Apply	No Change	Some Change	Moderate Change	Significant Change	Very Significant Change
B. WORK CLIMATE						
Applying coaching	☐	☐	☐	☐	☐	☐
Applying techniques/ initiatives that influence motivational climate	☐	☐	☐	☐	☐	☐
Implementing actions that influenced retaining people	☐	☐	☐	☐	☐	☐

Module 4: Data Collection

Result Area	No Opportunity to Apply	No Change	Some Change	Moderate Change	Significant Change	Very Significant Change
Implementing job enrichment opportunities for valued associates	☐	☐	☐	☐	☐	☐
Implementing better control and monitoring systems	☐	☐	☐	☐	☐	☐
Applying techniques that influenced better teamwork	☐	☐	☐	☐	☐	☐

Table Questionnaire-5

Result Area	No Opportunity to Apply	No Change	Some Change	Moderate Change	Significant Change	Very Significant Change
C. PERSONAL OUTCOMES						
Realizing improved written communications	☐	☐	☐	☐	☐	☐
Realizing improved oral communications	☐	☐	☐	☐	☐	☐
Realizing greater self- confidence	☐	☐	☐	☐	☐	☐
Working personal leadership plan	☐	☐	☐	☐	☐	☐

6. List the three behaviors or skills from the above list that you have used most frequently as a result of the program.

Module 4: Data Collection

7. What has changed about you or your work as a result of your participation in this program? (Specific behavior change such as: increased delegation to employees, improved communication with employees, employee participation in decision making, improved problem solving, etc.)

8. How has Cyber International benefited from your participation in the program? Please identify specific business accomplishments or improvements that you believe are linked to participation in this program. (Think about how the improvements resulted in influencing business measures, such as increased revenue, increased overall shipments, improved customer satisfaction, improved employee satisfaction, decreased costs, saved time, etc.)

9. Please define the business measure most improved since you completed the program and its unit for measurement. For example, if you selected “sales,” your unit of measure may be “1 closed sale.”

10. For this measure, what is the monetary value of improvement for one unit of this measure? For example, the value of a closed sale is sales value times the profit margin ($10,000 x 20%=$2,000). Although this step is difficult, please make every effort to estimate the value of a unit. Put the value in the currency you selected, round to the nearest whole value, and enter numbers only (e.g., $2,000.50 should be input as $2,000).

11. Please state your basis for the value of the unit of improvement you indicated above. In the closed sale example, a standard value, profit margin, is used, so “standard value” is entered here.

12. For the measure listed as most directly linked to the program, how much has this measure improved in performance? If not readily available, please estimate. If you selected “sales,” show the actual increase in sales (e.g., four closed sales per month, input the number four here). You can input a number with up to one decimal point. Indicate the frequency base for the measure.

☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly

Module 4: Data Collection

13. What is the annual value of improvement in the measure you selected above? Multiply the increase (question 26) by the frequency (question 26) times the unit of value (question 24). For example, if you selected “sales,” multiply the sales increase by the frequency to arrive at the annum value (e.g., four sales per month x 12 x 2,000=$96,000). Although this step is difficult, please make every effort to estimate the value. Put the value in the currency you selected, round to nearest whole value, and enter numbers only (e.g., $96,000.50 should be input as 96,000).

14. List the other factors that could have influenced these results.

15. Recognizing that the other factors could have influenced this annual value of improvement, please estimate the percent of improvement that is attributable (e.g., isolated) to the program. Express as a percentage out of 100%. For example, if only 60% of the sales increase is attributable to the program, enter 60 here. ___%

16. What confidence do you place in the estimates you have provided in the questions above? A 0% is no confidence, a 100% is certainty. Round to nearest whole value, and enter a number only (e.g., 37.5% should be entered as 38).

17. Do you think this Leadership Program represented a good investment for Cyber International?

    ☐ Yes

    ☐ No

18. Indicate the extent to which you think your application of knowledge, skills, and behavior learned from the Leadership Program had a positive influence on these business measures in your own work or your work unit. *Please check the appropriate response beside each measure*.

Module 4: Data Collection

Table Questionnaire-6

Business Measure	Not Applicable	Applies But No Influence	Some Influence	Moderate Influence	Significant Influence	Very Significant Influence
A. Work output	☐	☐	☐	☐	☐	☐
B. Quality	☐	☐	☐	☐	☐	☐
C. Cost control	☐	☐	☐	☐	☐	☐
D. Efficiency	☐	☐	☐	☐	☐	☐
E. Cycle time of products	☐	☐	☐	☐	☐	☐
F. Sales	☐	☐	☐	☐	☐	☐
G. Employee turnover	☐	☐	☐	☐	☐	☐
H. Employee absenteeism	☐	☐	☐	☐	☐	☐
I. Employee satisfaction	☐	☐	☐	☐	☐	☐
J. Employee complaints	☐	☐	☐	☐	☐	☐
K. Customer satisfaction	☐	☐	☐	☐	☐	☐
L. Customer complaints	☐	☐	☐	☐	☐	☐
M. Other (please specify)	☐	☐	☐	☐	☐	☐

Please cite specific examples or provide more details: What additional benefits have been derived from this program?

19. What barriers, if any, have you encountered that have prevented you from using skills/behaviors gained in the Leadership Program? Check all that apply.

☐ I have had no opportunity to use the skills.

☐ I have not had enough time to apply the skills.

☐ My work environment does not support the use of these skills/behaviors.

☐ My supervisor does not support this type of program.

☐ This material does not apply to my job situation.

☐ Other (please specify):

20. What enablers, if any, are present to help you use the skills or knowledge gained from this program? Please explain.

21. What additional support could be provided by management that would influence your ability to apply the skills and knowledge learned from the program?

22. What additional solutions do you recommend that would help to achieve the same business results that the Leadership Program has influenced?

23. Would you recommend the Leadership Program to others? Please explain. If no, why not? If yes, what groups/jobs and why?

☐ Yes

☐ No

24. What specific suggestions do you have for improving this program?

Other Comments:

Thank you for your time and input.

Instructor: _____ Date of Last Session: _____City: _____

Please return this completed questionnaire and action plan in the enclosed envelope and mail directly to: _____

Module 4: Data Collection

Improving the Response Rate for Questionnaires

Administration

- Use one or two follow-up reminders.
- Have the introduction letter signed by a top executive.
- Use manager to distribute questionnaires, show support, and encourage response.
- Use a local coordinator to help with questionnaires.
- Send a giveaway with the questionnaire (gift card, promotional item).
- Provide an incentive (or chance of incentive) for quick response.
- Distribute questionnaires to a captive audience.
- Consider an alternative distribution channel such as e-mail.
- Have a third party collect and analyze data.
- Keep questionnaire responses anonymous or confidential.
- Make it easy to respond.
- Identify an influencer to nudge participants.
- Provide options to respond (paper, email, website).
- Allow completion of the survey during work hours.
- Consider paying for the time it takes to complete the questionnaire.

Module 4: Data Collection

Communication

- Provide advance communication about the questionnaire.
- Clearly communicate the reason for the questionnaire.
- Review the questionnaire at the end of the formal session.
- Provide an estimate of the time it should take to complete the questionnaire.
- Communicate the time limit for submitting responses.
- Communicate that you will send a summary of the results to participants.
- Let participants know how the data will be used.
- Indicate who will see the results of the questionnaire.
- Let the target audience know that they are part of a carefully selected sample.

Other

- Keep the questionnaire simple and as brief as possible.
- Carefully select the survey sample.
- Add emotional appeal.
- Design questionnaire to attract attention, with a professional format.
- Frame questions so participants can respond appropriately.

Developing ROI With Action Planning

Table 4.4: Action planning sequence

Before	• Communicate the action plan requirement early. • Have them select actions/measures in advance.
During	• Describe the action planning process at the start of the program. • Teach the action planning process. • Allow time to develop the plan. • Have the facilitator approve the action plan. • Require participants to assign a monetary value for each proposed improvement. • If possible, require action plans to be presented to the group. • Explain the follow-up mechanism.
After	• Require participants to provide improvement data. • Ask participants to isolate the effects of the program. • Ask participants to provide a level of confidence for estimates. • Collect action plans at the pre-determined follow-up time. • Summarize the data and calculate the ROI.

Discussion Question

Is there an opportunity to use action plans in your programs? Explain.

Module 4: Data Collection

Action Plan Example

Part I - Action Plan for the **Leadership 101** **Program/Project**

Name: Medicine Gelatin Manager **Instructor Signature:** _____ **Follow-up Date:** _____

Objective: Elimination of Gel Waste **Evaluation Period:** June 1 **to** October 1

Improvement Measure: Quality **Current Performance:** 8,000 kgs' waste monthly **Target Performance:** Reduce waste by 80%

SPECIFIC STEPS: I will do this …	END RESULT: So that …
1. Take a more active role in daily gelatin schedule to ensure the manufacture and processing control of gelatin quantities.	1. Better control of gelatin production on a daily basis. This will eliminate the making of excess gelatin, which could be waste.
2. Inform supervisors and technicians on the value of gelatin and make them aware of waste.	2. Charts/graphs with dollar values of waste will be provided to give awareness and understanding of the value of waste.
3. Be proactive to gelatin issues before they become a problem.	3. Able to make gelatin for encapsulation lines and making better decisions on the amounts.
4. Constantly monitor hours of encapsulation lines on all shifts to reduce downtime and eliminate the possibility of leftover batches.	4. Eliminate the excess manufacturing of gelatin mass and the probability of leftover medicine batches.
5 Provide constant feedback to all in the department, including encaps machine operators.	5. Elimination of unnecessary gelatin mass waste.

EXPECTED INTANGIBLE BENEFITS

Gel mass will decrease to a minimum over time, which will contribute to great financial gains for our company (material variance). This will put dollars toward the bottom line.

Module 4: Data Collection

Part II - Action Plan for the **Leadership 101** **Program/Project**

Name: Medicine Gelatin Manager **Objective:** Elimination of Gel Waste

Improvement Measure: Quality **Current Performance:** 8,000 kgs' waste monthly **Target Performance:** Reduce waste by 80%

ANALYSIS

A. What is the unit of measure? Waste reduction Does this measure reflect your performance alone? Yes ☐ No ☑

If not, how many employees are represented in the measure? 32

B. What is the value (cost) of one unit? $ 3.60 per kilogram of gelatin mass

C. How did you arrive at this value? This is the cost of raw materials and is the value we use for waste.

D. How much did this measure change during the last month of the evaluation period compared to the average before the training program? (Monthly value). Currently 2,000 kgs' monthly waste

Please explain the basis of this change and what you/your team did to cause it.

6,000 kilograms of waste eliminated. Reduction in machines from 19 to 12 created additional savings but did not calculate. Gains in machine hours (efficiency) in Encaps Dept. More awareness of gel mass waste and its costs. Key contributing factors were problem-solving skills, communicating with my supervisors and technicians and their willing response, and my ability to manage the results.

E. What percentage of this change was caused by the application of methods from Leadership 101 (0% to 100%) 20 %

F. What level of confidence do you place on the above information? (100%=Certainty and 0%=No Confidence) 70 %

G. If your measure is time-savings, what percentage of the time saved was applied toward productive tasks? (0% to 100%) NA %

ACTUAL INTANGIBLE BENEFITS

Gelatin mass waste has been a problem for our company since start-up. With low efficiency in the Encapsulation Department and the mistakes made in the Gel Department, the waste was out of control. In the past few months, efficiency has increased and the Gel Department has stabilized, and as a result, waste is down considerably.

Module 5:
Data Analysis

Module 5: Data Analysis

Case Application: First Bank

First Bank, a large commercial bank, experienced a significant increase in consumer loan volume for the quarter. In an executive meeting, the chief executive officer asked the executive group why the volume increased.

- The executive vice president responsible for the consumer lending started the discussion by pointing out that his loan officers are more aggressive: “They have adopted an improved sales approach. They all have sales development plans in place. We are being more aggressive.” This new approach has caused the volume to increase.

- The marketing executive added that she thought the increase was related to a new promotional program and an increase in advertising during the period. “We have had some very effective ads,” she remarked.

- The chief financial officer thought it was the result of falling interest rates. He pointed out that interest rates fell by one percent for the quarter and added, “Each time interest rates fall, consumers will borrow more money.”

- The executive responsible for mergers and acquisitions felt that the change was due to a reduction in competition. “Two bank branches, as our competitors, closed during this quarter which had an impact on our market areas. This has driven some of those customers to our branches.” She added, “When you have more customers, you will have more loan volume.”

- The human resources vice president spoke up and said that the consumer loan referral incentive plan had been slightly altered with an increase in the referral bonus to all employees who refer legitimate customers for consumer loans. This new bonus plan, in her opinion, had caused the increased consumer loan value.

She concluded, “When you reward employees to bring in customers, they will bring them in…in greater numbers.”

- The human resource development vice president said the consumer lending seminar caused the improvement. He indicated that it had been revised and is extremely effective, with appropriate strategies to increase customer prospects. He concluded, “When you have effective training and build skills in sales, you will increase loan volume.”

- The meetings and events executive said the national sales meeting caused the improvement. He indicated that the meeting motivated the sales staff, informed them about our growth strategies, and allowed them to learn from each other through breakouts and informal networking opportunities. He concluded, “When you have effective sales meetings, you will increase
loan volume.”

These responses left the CEO wondering just what had caused the improvement. Was it one or all of the factors? If so, how much was each?

Discussion Questions

1. Is this situation unusual? Please explain.

2. Should the CEO drop the issue?

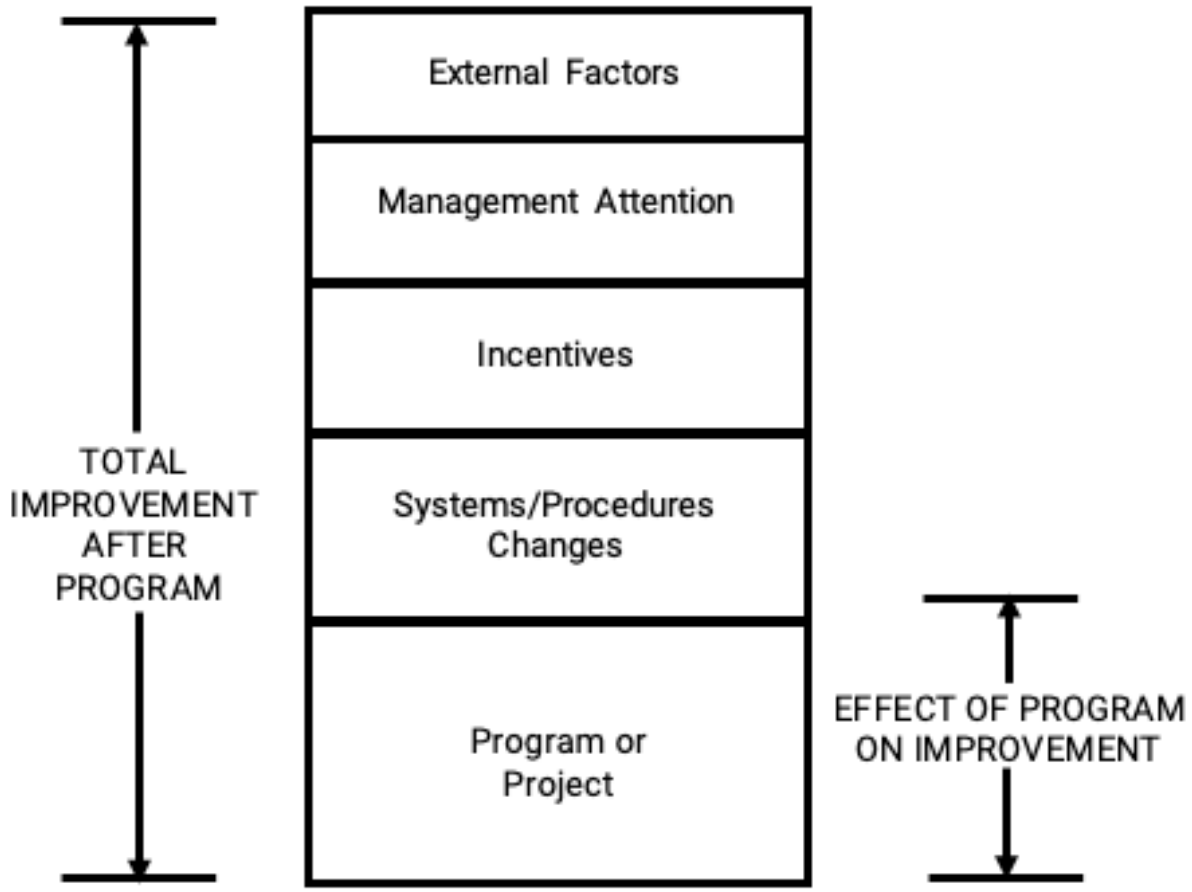
3. What are some approaches to resolve this dilemma?

4. What would you do?

Module 5: Data Analysis

Several Factors Contribute to an Improvement After a Program Is Conducted

Figure 5.1: Program improvement factors



Module 5: Data Analysis

Techniques to Isolate the Effects of Programs

- Use of a control group arrangement
- Trend line analysis of impact data
- Mathematical modeling
- Use of a control group arrangement
- Use of experts/previous studies
- Participant's estimate of the program's impact (percent)
- Supervisor's estimate of the program's impact (percent)
- Management's estimate of the program's impact (percent)
- Calculating/estimating the impact of other factors
- Use of customer input

Isolating the Effects of a Program

For each of the situations, please indicate the method used to isolate the effects of the program.

A. Control group

B. Trend line analysis

C. Forecasting

D. Participant's estimate

E. Use of customer input

F. Expert's estimate

Module 5: Data Analysis

Table 5.1: Isolating the effects of a program exercise.

	Isolation Method
1. A manufacturing company has recently implemented a new incentive plan to boost the sales for client partners. Just as the plan was implemented, the company increased its promotional budget for each product line. Both the sales incentive plan and the sales promotion have driven an increase in sales. It appears that no other factors have contributed to this increase. There is a mathematical relationship between the promotional budget and the sales increase based on historical data. This equation is used to predict the sales increase based on the promotional budget increase. This forecast is compared with actual figures to isolate the impact of the sales incentive program.	_____
2. Absenteeism for bus drivers in a large metropolitan area has been deteriorating for some time. An HR program was implemented to include a no-fault absenteeism policy and a change in the selection process. After the program was conducted, the absenteeism rate decreased. It appears that no other influences have contributed to this decrease. The pre-program absenteeism data are very stable, and a trend is projected in the post period to compare with the actual figures. The difference in the two showed the contribution of the project.	_____
3. An agent-learning program in a real estate firm was designed to increase listings. Customers are providing their rationale for deciding to list a home with a particular agent. Listings increased three months after the program was completed. While there are many factors that caused the increase, one factor was the quality of the presentation made by the agent, which was the basis of the program. This information was used to understand the impact of the agent-learning program on the actual number of houses listed.	_____

Module 5: Data Analysis

	Isolation Method
4. A new wellness and fitness center has caused this energy company's healthcare expenditures to decrease one year after the center was opened. Given this amount of decrease, several experts were assembled who understand why healthcare costs have changed. These individuals are asked to explain all the contributing factors and isolate the effects of the wellness and fitness center on that measure.	_____
5. A large automobile company implemented a sales consulting process on a pilot basis. Twelve dealerships were used in the initial pilot program. A comparison group was selected to judge performance along several measures: sales volume, economy in the market, the sales vs. service mix, incentives provided to sales staff, and the quality rating of the dealership. The difference in the two groups showed the impact of the sales consulting.	_____
6. In a leadership development program for a biotech company, the participating managers were asked to provide details on the impact of the use of the leadership skills, using actual data in the work unit. As part of the exercise, these participants estimated the percent of improvement directly related to the leadership development program.	_____

Module 5: Data Analysis

Use of Control Groups Example—Sales and Customer Service Training

- Six sites (dealer stores) chosen for program evaluation prior to roll-out to 130 stores
- Experimental group of six stores received training (pilot), six stores in control group were not trained
- Performance of both groups observed during same six-month period (sales and customer satisfaction)
- Data collected on both groups during the same time frame
- Neither group is aware of the control group arrangement

Criteria for the Control Group Arrangement:

- _____

  _____
- _____

  _____
- _____

  _____

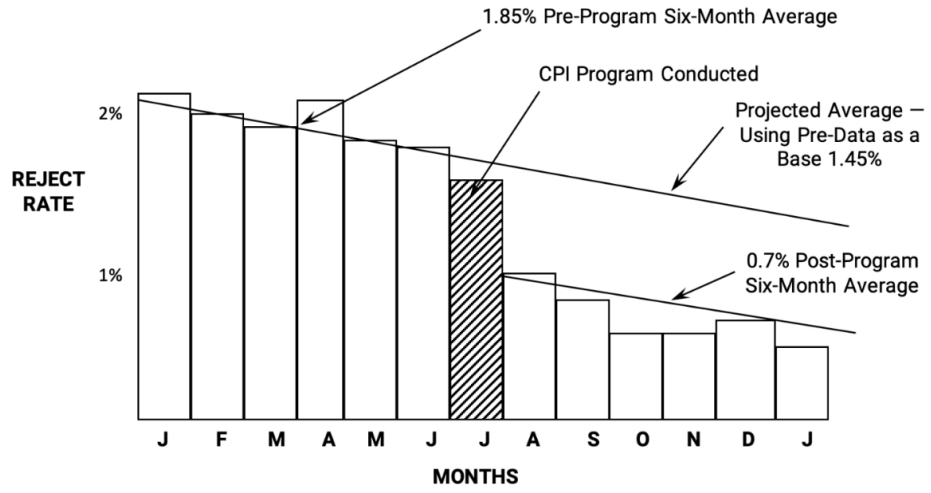
Module 5: Data Analysis

Case Application: Micro Electronics, Inc.

Use of Trend Line Analysis

A series of learning programs have been conducted to improve quality at Micro Electronics, Inc. One measure of quality is the reject rate (the percent of items returned for rework). Because of the emphasis in quality for the last year, there has been a downward movement in the reject rate. In one work unit, a continuous improvement program (CPI) was conducted to improve the reject rate. All employees of this work unit were involved in the program, conducted in July. After the program's completion, the learning team measured the impact of the program on the reduction of rejects. Figure 5.2 shows the reject rate six months before and after the program's implementation. Trend lines show the relative trends and mid-point values before and after the program.

Figure 5.2: Trend line analysis



Discussion Questions

1. Approximately what improvement in reject rate has resulted from the program?

2. How reliable is this process?

3. When can this process be used?

Module 5: Data Analysis

Case Application: National Bank

Use of Estimates

National Bank is on a carefully planned growth pattern through acquisitions of smaller banks. One recent acquisition was quite large, representing almost $1 billion in total assets in 30 branches. After the acquisition, all record-keeping systems and performance monitoring processes were implemented at all locations. Each branch in the network had a scorecard where performance was tracked, utilizing several measures such as new accounts, total deposits, and growth by specific products.

National Bank has an excellent reputation for having a strong sales culture. Through a sales training program, all branch personnel learned how to aggressively pursue new customers and cross-sell existing customers in a variety of product lines. The bank used sales training coupled with incentives and management reinforcement to ensure that ambitious sales goals were met. Six months after the performance monitoring systems were in place in the new acquisition, management was ready to implement the sales culture, including the sales training program for all branch personnel.

Recognizing that several factors influenced scorecard results, management decided to let the program participants estimate the impact of the learning program. These factors were initially identified by branch management as having a significant influence on sales output: 1) the sales training program, 2) incentive systems, 3) management reinforcement/goal setting, and 4) marketing. Management tracked the improvements by product category after the program was implemented. Here, management used scorecard results by product results.

Module 5: Data Analysis

The branch managers in the target metro area were asked to obtain estimates of the percentage of improvement that could be attributable to each of the factors above. All branch team members provided input in a focus group meeting that was facilitated by the manager. In the carefully organized meeting, the branch manager:

- Described the task
- Explained why the information was needed and how it would be used
- Had team members discuss the linkage between each factor and the output measure
- Provided team members with any additional information needed to estimate the contribution of each factor
- Asked team members to identify other factors that may have contributed to the increase in sales
- Obtained the confidence level from each team member for the estimate for each factor (100% = certainty; 0% = no confidence); the values were averaged for each factor.
- Obtained the actual estimate of the contribution of each factor; the total had to be 100%. Several consensus-reaching tools were offered.

This exercise determined how much of the improvement was influenced by the different factors. Table 5.2 displays the information that was collected from one branch for one business measure.

Module 5: Data Analysis

Table 5.2: National bank data

Monthly Increase in Credit Card Accounts: 175

Contributing Factors	Average Impact on Results	Average Confidence Level
Sales Training Program	32%	83%
Incentive Systems	41%	87%
Management Reinforcement/Management Emphasis	14%	62%
Marketing	11%	75%
Other	2%	91%
	100%	

Discussion Questions

1. What is the number of new credit card accounts per month that can be attributed to the sales training program?

2. Is this a realistic process to estimate the program impact on the increased sales?

3. How could this process be improved?

Module 5: Data Analysis

The Wisdom of Crowds

In the fall of 1906, British scientist Francis Galton left his home in Plymouth and headed to a country fair. Galton, 85 years old and beginning to feel his age, was still brimming with the curiosity that had won him renown—and notoriety—for his work on statistics and the science of heredity. On that day, however, Galton was curious about livestock.

Galton's destination was the annual West of England Fat Stock and Poultry Exhibition, a regional fair where the local farmers and townspeople gathered to appraise the quality of each other's cattle, sheep, chickens, horses, and pigs. Wandering through rows of stalls examining workhorses and prize hogs may have seemed a strange way for a scientist to spend an afternoon, but there was a certain logic to it. Galton was a man obsessed with two things: the measurement of physical and mental qualities and breeding. And what, after all, is a livestock show but a big showcase for the effects of good and bad breeding?

Breeding mattered to Galton because he believed that only very few people had the characteristics necessary to keep societies healthy. He had devoted much of his career to measuring those characteristics, in fact, to prove that most people did not have them. His experiments left him with little faith in the intelligence of the average person, "the stupidity and wrong-headedness of many men and women being so great as to be scarcely credible." Galton believed, "Only if power and control stayed in the hands of the select, well-bred few, could a society remain healthy and strong."

As he walked through the exhibition that day, Galton came across a weight-judging competition. A fat ox had been selected and placed on display, and members of a gathering crowd were lining up to place wagers on what the weight of the ox would be after it had been slaughtered and dressed. For sixpence, an individual could buy a

stamped and numbered ticket, fill in their name, occupation, address, and estimate. The best guesses would receive prizes.

Eight hundred people tried their luck. They were a diverse lot. Many of them butchers and farmers, who were presumably expert at judging the weight of livestock, but there were also quite a few people with no insider knowledge of cattle. “Many non-experts competed,” Galton wrote later in the scientific journal *Nature*. “The average competitor was probably as well fitted for making a just estimate of the dressed weight of the ox, as an average voter is of judging the merits of most political issues on which he votes.”

Galton was interested in figuring out what the “average voter” was capable of because he wanted to prove that the average voter was capable of very little. So, he turned the competition into an impromptu experiment. When the contest was over and the prizes had been awarded, Galton borrowed the tickets from the organizers and ran a series of statistical tests on them. Galton arranged the guesses (totaling 787, with 13 discarded because they were illegible) in order from highest to lowest and graphed them to see if they would form a bell curve. Then, among other things, he added all the contestants’ estimates and calculated the mean of the group’s guesses. That number represented, you could say, the collective wisdom of the Plymouth crowd. If the crowd were a single person, that was how much it would have guessed the ox weighed.

Galton undoubtedly thought that the average guess of the group would be way off. After all, mix a few very smart people with some mediocre people and a lot of dumb people, and it seems likely you’d end up with a dumb answer. But Galton was wrong. The crowd had guessed that the ox, after it had been slaughtered and dressed, would weigh 1,197 pounds. After it had been slaughtered and dressed, the ox weighed 1,198 pounds. In other words, the crowd’s judgment was essentially perfect. The “experts” were not close. Perhaps breeding didn’t mean so much after all. Galton wrote later: “The result

seems more creditable to the trustworthiness of a democratic judgment than it might have been expected." That was, to say the least, an understatement.

What Galton stumbled on that day in Plymouth was the simple, but powerful, truth: under the right circumstances, groups are remarkably intelligent and are often smarter than the smartest people in them. Groups do not need to be dominated by exceptionally intelligent people to be smart. Even if most of the people within a group are not especially well-informed or rational, they can still reach a collectively wise decision.

SOURCE: Taken from *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economics, Societies and Nations*. James Surowicki. New York. Doubleday, 2004.

Discussion Questions

1. What implications does this concept have in evaluation?

2. Can you cite other examples?

Isolating the Effects

Steps in Determining Which Method(s) to Use

Example used: Learning implemented to address poor quality (waste due to errors) in the manufacturing process. Follow these steps on the left side of the table for each L-4 measure. See the example on the right side of ***Table 5.3***.

Table 5.3: Isolation methods

Step	Example
Step 1. Define the measure.	**Step 1.** Quality (waste due to errors)
Step 2. What time frame should be used to monitor progress and collect the data to determine any change in the measure?	**Step 2.** Collect baseline data for a three-to-four-month period prior to learning solution. Collect improvement data at four months after the training.
Step 3. During the established time frame, what are the internal and external factors (other than the learning solution) that will influence the measure?	**Step 3.** Change in raw materials. Change in production process. Change in team personnel. Supervisor or team leader provides on-job-training. Changes in run time.
Step 4. Which method(s) is most feasible to use (control group, trend line, other sources)? If a control group or trend line cannot be used, then who/what are the best sources to provide data or estimates that address changes in the measure? Who is in the best position to know about influences?	**Step 4.** Is a control group possible? If so, establish control group criteria. If not, is trend analysis feasible? If not, good sources may be participants, participants' supervisor, and quality supervisor. If you are using estimates from participants or others, determine how you will structure the isolation question.
Step 5. Select the isolation method(s) to be used to determine the effects of the influencing factors.	**Step 5.** Select the most credible method(s) that can be accomplished in the performance environment.

Module 5: Data Analysis

Credibility of Data

Rank the items listed in Table 5.4 from 1 to 7, (1 = most credible, 7 = least credible).

Table 5.4: Credibility of data exercise

	Rank
1. The cumulative expenditures on child sex abuse claims in the US for the Roman Catholic Church is $1.5 billion. Source: US Conference of Catholic Bishops	_____
2. Vulcan Materials Company produced 321 million tons of crushed stone last year. Source: Annual Report. Audited by Deloitte	_____
3. Pharmaceutical firm in Ireland receives -42% ROI (negative) in a management learning program. Source: *ROI at Work*, ASTD, Jack and Patti Phillips	_____
4. Wells Fargo Bank receives 932% ROI in a learning program for relationship managers. Source: *Measuring Return on Investment*, Vol. 3, In Action Series, Patricia P. Phillips (Editor), ASTD.	_____
5. Annual cost of absenteeism and diminished productivity resulting from employee depression is $23.8 billion. Source: MIT study reported in Nation's Business	_____
6. The annual value of the market for wildlife trafficking—the second largest illegal trade in the world after drugs—is $10 billion. Source: US Department of State	_____
7. Presenteeism (working while sick) is costing employers $15 billion a year. Source: NBC Today Show	_____

Module 5: Data Analysis

Discussion Questions

1. Why are these items credible or not credible?

2. List all the factors that influence the credibility of data.

3. Why are we uncomfortable using estimates in our programs?

Credibility of Outcome Data

- Reputation of the source of the data
- Reputation of the source of the study
- Motives of the researchers
- Bias of the audience
- Methodology of the study
- Assumptions made in the analysis
- Realism of the outcome data
- Type of data
- Scope of analysis

Module 5: Data Analysis

Converting Data to Monetary Values

For each of these situations, please indicate the method used to convert data to money. Select from these methods:

A. Profit/savings from output (standard value)

B. Cost of quality (standard value)

C. Employee time as compensation (standard value)

D. Historical costs/savings from records

E. Expert input

F. External database

G. Link with other measures

H. Participant estimation

I. Management estimation

J. Estimation from staff

Table 5.5: Converting data to money exercise

	Method
1. The Veteran's Administration was experiencing a high turnover rate of nurses. A new HR program was designed to reduce this turnover. To obtain a value of one voluntary turnover, the internet was used to find a study in healthcare that showed the average cost (fully loaded) of replacing a nurse. This number, expressed as a percent of salary, was used in the calculation.	_____

Module 5: Data Analysis

	Method
2. A new program for couriers at DHL was designed to reduce the number of re-packaging errors. This error occurs when a package is damaged by the couriers and must be repackaged before delivery. The quality office in Brussels had previously determined the standard cost for a repackaging error. This amount was used to develop the total monetary value for error reduction.	_____
3. Mid-level managers at an electric utility were involved in a time management program designed to help managers save time. Each manager estimated the number of hours saved each week directly attributable to this program. The value used for each hour saved was the total annual salary for those managers adjusted for employee benefits and calculated on an hourly basis.	_____
4. An Australian government agency was implementing a new HR program designed to reduce the number of stress claims for team members. The team members who worked with angry and upset people were suffering from extreme stress on the job and were filing claims. To obtain the monetary value for a stress claim, the medical and health staff provided an average value for one claim based on their expertise of managing stress claims for several years.	_____

Module 5: Data Analysis

	Method
5. A new customer call center program at a home appliance company was designed to reduce the number of calls that were escalated to the next level of management. The individuals involved in the program were the immediate supervisors of the employees taking the calls. To determine the cost of a call escalation, the participants (supervisors) estimated the cost attached to each of these calls.	_____
6. A pharmaceutical company was implementing a new ethics program for all team members. While there were several outcomes from this program, one measure was expense account violations. To obtain the average cost of an expense account violation, all the violations for a two-month period were taken directly from the records and divided by the total violations.	_____
7. Employee engagement data are collected for a global computer company. A new HR program was designed to improve engagement scores. To place a value on a change in engagement score, the staff examined the correlations between engagement scores and employee turnover in different job groups. This correlation analysis is part of the human capital management system. As engagement scores improved, voluntary turnover decreased. The corresponding cost savings of the turnover reduction was used as the value for changes in the engagement score.	_____

Module 5: Data Analysis

	Method
8. A small equipment manufacturing company was interested in reducing absenteeism. The program was implemented and the cost of one absence was needed for the monetary impact. The HR staff member who conducted the study estimated the cost to be $300 per day.	_____
9. A major retail store chain was anxious to reduce the number of customer complaints. A new program was implemented, and the cost of a complaint was needed. To obtain the cost of one complaint, the management of the customer service area and the customer care vice president estimated the average cost of one complaint.	_____
10. Wells Fargo Bank implemented an advanced negotiation program where commercial bankers increased revenue from new and existing clients. The outcome of the program was increased revenue in specific product lines. To calculate the monetary value of a sale, the revenue amount was multiplied by the profit margin for the product line, which was a standard value for the organization.	_____

Module 5: Data Analysis

Methods of Converting Data to Monetary Values

- Converting output to contribution—standard value (profit/savings)
- Converting the cost of quality—standard value
- Converting employees' time (using compensation)
- Using historical costs/savings
- Using internal and external experts
- Using data from external databases/studies
- Linking with other measures
- Using participants' estimates
- Using supervisors' and managers' estimates
- Using staff estimates

Discussion Question

Which methods will work best in your organization? Pair with a partner and discuss the issues you face in converting data for your performance solutions. Log your concerns and how you will address them.

Module 5: Data Analysis

Calculating the Value of an Improvement

To convert data to a monetary value, these steps should be taken:

Step 1: Define and Focus on a Unit of Measure.

What measure is the program influencing (i.e., increase in sales, decrease in scrap, time savings, etc.)?

Step 2: Determine the Value of Each Unit. (V)

What is the value of one unit of the measure (i.e., one unit of sales, one unit of waste, one hour of time savings, etc.)?

Step 3: Calculate the Change in Performance Data. (Δ P)

How much did the measure change during the reporting period because of the program?

Step 4: Determine the Annual Amount of Change in Performance. (A Δ P)

What is the improvement in the measure over the first year (i.e., five units of waste reduction per month x 12 = 60 units annual improvement, etc.)?

Step 5: Calculate the Total Annual Value of the Improvement. (A Δ P x V)

The value of one unit of improvement multiplied by the amount of annual change during the reporting period equals the total annual monetary value of the improvement.

Module 5: Data Analysis

Converting Data Using External Database: Turnover of Middle Managers

Your team designed and implemented an intervention to reduce turnover of middle managers in your organization. The average salary for a middle manager in your organization is $75,000. The intervention influenced a reduction in turnover of 10 middle managers during the first year. Using the steps from the previous page, calculate the monetary value of the turnover reduction.

Step 1: Unit of Measure

Step 2: The cost/value of one turnover is (Use the turnover cost summary to determine the cost/value of one turnover.)

Step 3: Performance Level Change

Step 4: Annual Change in Performance

Step 5: Total Annual Improvement Value

Module 5: Data Analysis

Turnover Cost Summary

Table 5.6: Turnover cost summary

JOB TYPE/CATEGORY	TURNOVER COST RANGES
Entry Level — Hourly, Nonskilled, e.g., Fast Food Worker	30–50%
Service/Production Workers—Hourly, e.g., Courier	40–70%
Skilled Hourly, e.g., Machinist	75–100%
Clerical/Administrative, e.g., Scheduler	50–80%
Professional, e.g., Nurse, Accountant	75–125%
Technical, e.g., Computer Technician	100–150%
Engineers, e.g., Chemical Engineer	200–300%
Specialists, e.g., Computer Software Designer	200–400%
Supervisors/Team Leaders, e.g., Section Supervisor	100–150%
Middle Managers, e.g., Department Manager	125–200%

Notes

1. Percentages are rounded to reflect the general range of costs from studies.
2. Costs are fully loaded to include all the costs of replacing a team member and bringing them to the level of productivity and efficiency of the former member.

   The turnover included in studies is usually unexpected and unwanted. These costs categories are usually included:

   - Exit cost of previous employee
   - Lost productivity
   - Recruiting cost
   - Quality problems
   - Employment cost
   - Customer dissatisfaction

- Orientation cost
- Loss of expertise/knowledge
- Training cost
- Supervisor's time for turnover
- Wages and salaries while training
- Temporary replacement costs

3. Turnover costs are usually calculated when excessive turnover is an issue, and turnover costs are high. The actual cost of turnover for a specific job in an organization may vary considerably. The above ranges are intended to reflect what has been generally reported in the literature when turnover costs are analyzed.

Sources of Data

The sources of data for these studies follow three general categories:

1. Industry and trade magazines have reported the cost of turnover for a specific job within an industry.

2. Publications in general management (academic and practitioner), human resources management, human resources development training, and performance improvement often reflect ROI cost studies because of the importance of turnover to senior managers and human resources managers.

3. Independent studies have been conducted by organizations and not reported in the literature. Some studies have been provided privately to ROI Institute. In addition, ROI Institute has conducted several turnover cost studies; these results are included in these analyses.

Package Delivery Co.

At Package Delivery Co., a supervisor development program was conducted with 15 branch managers. One of the objectives of the program was to reduce the absenteeism in each work group using interactive skill-building sessions. Before the program was conducted, the average absenteeism rate for the team members in the branch was seven percent. It was determined in the follow-up evaluation that the new average rate was four percent. In a post-program follow-up, managers estimate that 40 percent of the reduction was directly related to the program.

A total of 120 team members work for the 15 branch managers. During the learning program, the managers (program participants) estimated the costs of a single absence to be $81 (This is the average value from all 15 managers). External studies have shown that the cost of a single absence ranges from $60–$70, depending on the industry and job. Assume that team members are expected to work 240 days per year.

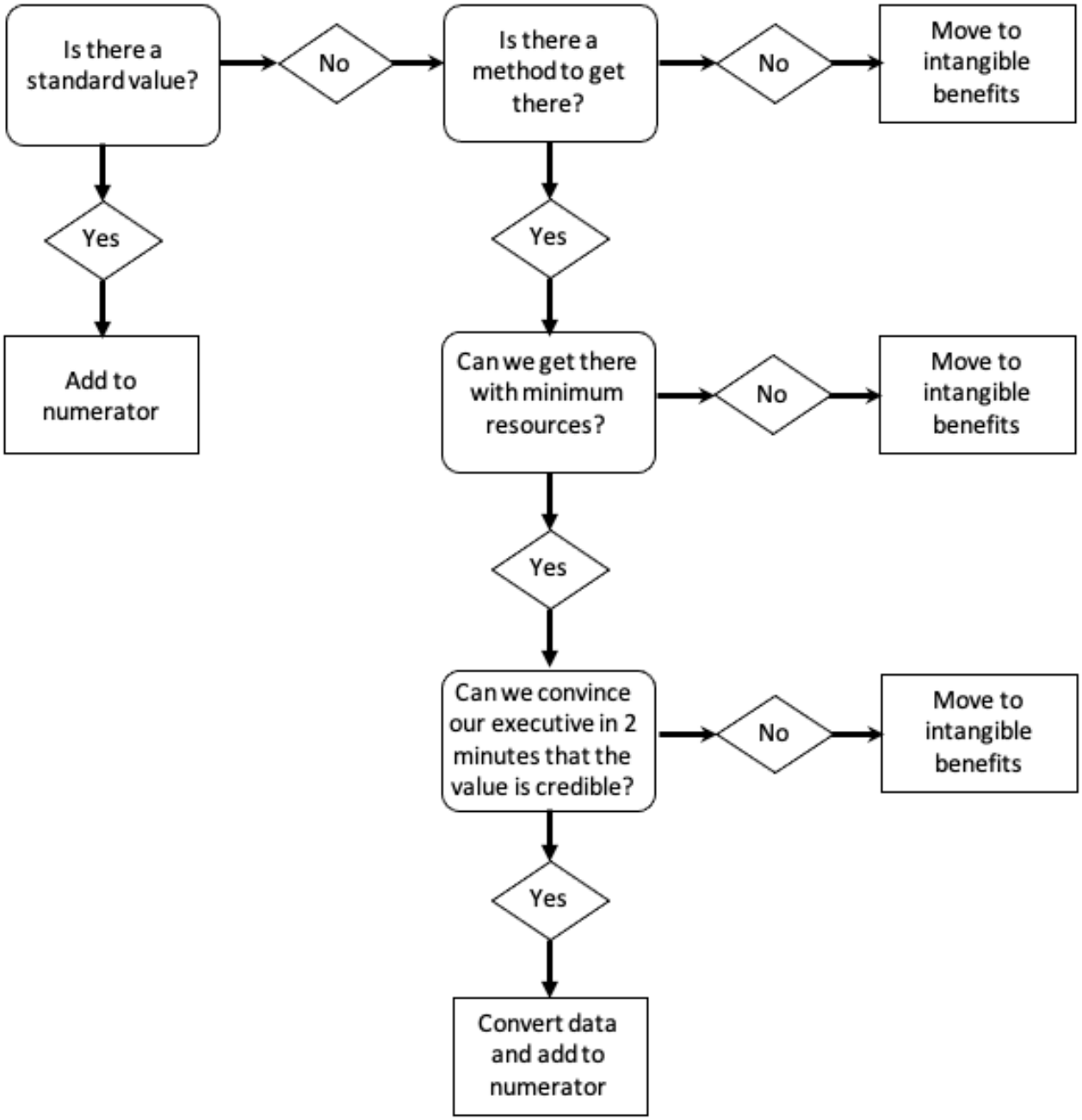
Calculate the annual savings from the improvement in the space below.

Notes

Module 5: Data Analysis

To Convert or Not to Convert

Figure 5.3: Questioning process for converting data to a monetary value



Module 5: Data Analysis

ROI Application: Leadership 101

You have been asked to calculate the ROI from action plans used in a leadership program. The plans are being collected and the results analyzed four months after the training is completed. Most of the plans have been received, analyzed, isolated, and annualized. The results from 28 participants and the cost of the program for the 30 participants are presented below.

- Thirty participants completed the program and were asked to submit action plans.
- Data from 18 participants has been analyzed, isolated, and annualized; total monetary benefit influenced by the training is $54,109.
- Ten participants did not provide data.
- You must analyze the remaining two plans, “Medicine Gelatin Manager” and “Bill Burgess,” and determine the benefits and calculate the ROI from the results of all 30 participants (See last pages of exercise).

Notes

Module 5: Data Analysis

Document your results in the table.

Table 5.7: Leadership 101 Data

	Your Answer	Actual Answer
Medicine Gelatin Manager		
Bill Burgess		
18 Other Participants (isolated and annualized)		
10 Other Participants		
Total Benefits From Leadership Program		

Leadership 101 cost: $60,000

BCR = ——————————— =

Calculate the ROI

ROI = ——————————— x 100 =

Module 5: Data Analysis

Action Plan Example

Part I - Action Plan for the Leadership 101 Program/Project

Name: Medicine Gelatin Manager **Instructor Signature:** _____ **Follow-up Date:** _____

Objective: Elimination of Gel Waste **Evaluation Period:** June 1 **to** October 1

Improvement Measure: Quality **Current Performance:** 8,000 kgs' waste monthly **Target Performance:** Reduce waste by 80%

SPECIFIC STEPS: I will do this …	END RESULT: So that …
1. Take a more active role in daily gelatin schedule to ensure the manufacture and processing control of gelatin quantities.	1. Better control of gelatin production on a daily basis. This will eliminate the making of excess gelatin, which could be waste.
2. Inform supervisors and technicians on the value of gelatin and make them aware of waste.	2. Charts/graphs with dollar values of waste will be provided to give awareness and understanding of the value of waste.
3. Be proactive to gelatin issues before they become a problem.	3. Able to make gelatin for encapsulation lines and make better decisions on the amounts.
4. Constantly monitor hours of encapsulation lines on all shifts to reduce downtime and eliminate the possibility of leftover batches.	4. Eliminate the excess manufacturing of gelatin mass and the probability of leftover medicine batches.
5 Provide constant feedback to all in the department, including encaps machine operators.	5. Elimination of unnecessary gelatin mass waste.

EXPECTED INTANGIBLE BENEFITS

Gel mass will decrease to a minimum over time, which will contribute to great financial gains for our company (material variance). This will put dollars toward the bottom line.

Module 5: Data Analysis

Part II - Action Plan for the Leadership 101 Program/Project

Name: Medicine Gelatin Manager **Objective:** Elimination of Gel Waste

Improvement Measure: Quality **Current Performance:** 8,000 kgs' waste monthly **Target Performance:** Reduce waste by 80%

ANALYSIS

A. What is the unit of measure? Waste reduction Does this measure reflect your performance alone? Yes ☐ No ☑

If not, how many employees are represented in the measure? 32

B. What is the value (cost) of one unit? $ 3.60 per kilogram of gelatin mass

C. How did you arrive at this value? This is the cost of raw materials and is the value we use for waste.

D. How much did this measure change during the last month of the evaluation period compared to the average before the training program? (Monthly value). Currently 2,000 kgs' monthly waste

Please explain the basis of this change and what you/your team did to cause it.

6,000 kilograms of waste eliminated. Reduction in machines from 19 to 12 created additional savings but did not calculate. Gains in machine hours (efficiency) in Encaps Dept. More awareness of gel mass waste and its costs. Key contributing factors were problem-solving skills, communicating with my supervisors and technicians and their willing response, and my ability to manage the results.

E. What percentage of this change was caused by the application of methods from Leadership 101 (0% to 100%) 20 %

F. What level of confidence do you place on the above information? (100%=Certainty and 0%=No Confidence) 70 %

G. If your measure is time-savings, what percentage of the time saved was applied toward productive tasks? (0% to 100%) NA %

ACTUAL INTANGIBLE BENEFITS

Gelatin mass waste has been a problem for our company since start-up, with low efficiency in the Encapsulation Department and the mistakes made in the Gel Department, the waste was out of control. In the past few months, efficiency has increased and the Gel Department has stabilized, and as a result, waste is down considerably.

Module 5: Data Analysis

Part I - Action Plan for the Leadership 101 Training Program/Project

Name: Bill Burgess, Senior Engineer **Instructor Signature:** Amber Locke **Follow-up Date:**

Objective: Enable my team to sustain continuous improvement by end of next QTR. **Evaluation Period:** Jun 1 **to** Oct 1

Improvement Measure: *Time savings* **Current Performance:** 32 hours unproductive time per month **Target Performance:** Zero unproductive hours

SPECIFIC STEPS: I will do this …	END RESULT: So that …
1. Convince the technicians on my team that I am serious about continuous improvement.	1. Team members understand my expectations and intentions.
2. Get my team involved in identifying key result areas and related improvement needs and focus on improving these.	2. Team members become committed and feel empowered to act.
3. Provide coaching to team members to help them break paradigms.	3. Team members see new approaches, possibilities, solutions.
4. Consistently apply the principle of deferred judgment when team members come up with new ideas.	4. Ideas get a fair hearing & team members get an opportunity to support them and find ways to demonstrate their practicality.
5. Apply the 5-step approach to handling mistakes.	5. Support, risk-taking, learning accountability, and growth occurs.
6. Teach my team to understand and diagnose before prescribing.	6. Team members minimize errors and rework.
7. Continuously seek ways to inspire ownership and involvement.	7. Get team members excited about their achievements.
8. Observe & think about ways team responds to my behavior and approach. Document improvements: time savings, quality improvement, output improvement, cost savings, and other beneficial changes. Measure the results and objectively provide feedback and recognition to team.	8. I can learn what works and what doesn't. I can close the feedback loop so that the team internalizes that achievements are rewarded, and I can begin to put a dollar value on the results of my efforts.

EXPECTED INTANGIBLE BENEFITS

People will feel a greater sense of my desire to see them achieve. I will become more satisfied with my own achievement and my team will function more like a team. My team will make a greater contribution to the company's goals. Individual team members will become more fulfilled. This can also lead to improved employee satisfaction and improved customer service.

Module 5: Data Analysis

Part II - Action Plan for the Leadership 101 **Training Program/Project**

Name: Bill Burgess, Senior Engineer **Objective:** Enable my team to sustain continuous improvement by end of next QTR.

Improvement Measure: Time savings **Current Performance:** 32 hours unproductive time per month **Target Performance:** Zero unproductive hours

ANALYSIS

A. What is the unit of measure? Team hours saved per month. **Does this measure reflect your performance alone?** Yes ☐ No ☑
If not, how many employees are represented in the measure? Eight

B. What is the value (cost) of one unit? $ 52.00 for each hour saved.

C. How did you arrive at this value? Team member salary is $ 40.00 per hour. I added 30 percent for benefits.
30% of $40 = $12 $40 + 12 = $52 per hour.

D. How much did this measure change during the last month of the evaluation period compared to the average before the training program? (monthly value) Improved from 32 hours of unproductive time per month to only 8 hours for entire team.

Please explain the basis of this change and what you or your team did to cause it. Improvement in unproductive time. Got my team involved in identifying key result areas and improvement needs and they came through. My ability to listen and not be judgmental played a key part in the results they achieved. Each hour saved due to increased productivity (resulting in less unproductive time) is credited to the program. 100% of the hours saved has been used in productive ways to benefit the company, and most of what was applied to achieve these results was because of what I have learned from the training program.

E. What percentage of this change was caused by the application of the skills from Leadership 101 (0% to 100%) 75 %

F. What level of confidence do you place on the above information? (100%=Certainty and 0%=No Confidence) 95 %

G. If your measure is time-savings, what % of the time saved was applied toward productive tasks? (0% to 100%) 90 %

ACTUAL INTANGIBLE BENEFITS

Because of my new approach with my team, they respond better by taking the initiative and working together to achieve results. As I continue to practice what I learned from training, my confidence increases, and I will be able to accomplish more and feel better about myself.

Module 5: Data Analysis

Worksheet to Calculate Monetary Benefits for Medicine Gelatin Manager and Bill Burgess

Table 5.8: Worksheet to calculate monetary benefits

	Medicine Gelatin Manager	Bill Burgess
Unit of Measure		
Value of the Each Unit (V)		
Change in Performance Data (Δ P)		
Annual Change in Performance (A Δ P)		
Total Monetary Benefit (A Δ P x V)*		

*Move your totals to ***Table 5.9*** and complete the ROI Calculation.

Module 5: Data Analysis

Capturing the Cost of the Solution

Overview of Tabulating Costs

Table 5.9: Recommend cost categories

Cost Item	Prorated	Expensed
Needs Assessment	✓	
Design and Development	✓	
Acquisition (purchase)	✓	
Delivery • Salaries/Benefits—Facilitators		✓
• Salaries/Benefits—Coordination		✓
• Program Materials and Fees		✓
• Travel/Lodging/Meals		✓
• Facilities		✓
• Participants Salaries/Benefits		✓
• Contact Time		✓
• Travel Time		✓
Evaluation		✓
Overheard	✓	✓

Discussion Questions

1. Do you think it is unnecessary to capture the cost of any of these items?

2. Are there additional costs that could be captured? What are they?

Module 5: Data Analysis

Prorated vs. Direct Costs

Usually, all costs related to a program are captured and expensed. However, three categories are usually prorated over several sessions of the same program. Needs assessment, design and development, and acquisition are all significant costs that should be prorated. With a conservative approach, the shelf life of the program should be very short. Some organizations will consider one year of operation for the program, others may consider two or three years. If there is some question about the time period, finance and accounting may be consulted for the specific time to use. It is also appropriate to prorate the evaluation costs and the department overhead costs.

A brief example will illustrate the proration for development costs. In a large telecommunications company, an e-learning program was developed at a cost of $98,000. It was anticipated that it would have a three-year life cycle before it would have to be updated or replaced. The program would be conducted with about 1,000 team members in a three-year period. An ROI calculation is planned for one specific group of 25 employees. The development costs would be spread over the 25 team members as a prorated development cost. Thus, an ROI on one group would have a development cost of $2,450 included in the cost profile. ($98,000 ÷ 1,000 = $98 x 25 = $2,450)

Module 5: Data Analysis

Cost Tabulation Guidelines

Program/Project_____ Date _____

Needs Analysis Costs	**Itemized**	**Total**
Salaries & Employee Benefits— Staff (number of people x average salary x employee benefits factor x number of hours on project)		
Meals, Travel, and Incidental Expenses		
Office Supplies and Expenses		
Printing and Reproduction		
Outside Services		
Equipment Expenses		
Registration Fees		
Other Miscellaneous Expenses		
Total Analysis Cost		

Development Costs	**Itemized**	**Total**
Salaries & Employee Benefits — Staff (number of people x average salary x employee benefits factor x number of hours on project)		
Meals, Travel, and Incidental Expenses		
Office Supplies and Expenses		
Program Materials and Supplies		
Printing and Reproduction		
Outside Services		
Equipment Expenses		
Other Miscellaneous Expenses		
Total Development Costs		

Module 5: Data Analysis

	Itemized	Total
Delivery Costs		
Participant Costs		
Salaries and Employee Benefits—Participants (number of participants x average salary x employee benefits factor x hours or days of training time)		
Meals, Travel, and Accommodations (Number of participants x average daily expenses x days of training)		
Participant Replacement Costs (if applicable)		
Lost Production (explain basis)		
Program Materials and Supplies		
Instructor Costs		
Salaries and Benefits		
Meals, Travel, and Incidental Expense		
Outside Services		
Facility Costs		
Facility Rental		
Facility Expense Allocation		
Equipment Expense		
Other Miscellaneous Expense		
Total Delivery Costs		

Module 5: Data Analysis

Evaluation Costs	**Itemized**	**Total**
Salaries and Employee Benefits - Staff (number of people x average salary x employee benefits factor x number of hours on project)		
Meals, Travel, and Incidental Expenses		
Participant Costs (interviews, focus groups, questionnaires)		
Office Supplies and Expenses		
Printing and Reproduction		
Outside Services		
Equipment Expense		
Other Miscellaneous Expenses		
Total Evaluation Costs		
Share of General Overhead Allocation of Training Dept.		
TOTAL PROGRAM COSTS		

Module 5: Data Analysis

Calculating the Return on Investment

Different Approaches to Measure the Financial Payoff of Training

- Cost benefit analysis
- Return on investment
- Payback period
- Discounted cash flow
- Internal rate of return
- Utility analysis
- Consequences of not providing learning systems

Defining the Benefit Cost Ratio

$$\text{Benefit/Cost Ratio} = \frac{\text{Program Benefits}}{\text{Program Costs}}$$

Defining the Return on Investment

$$\text{ROI (\%)} = \frac{\text{Program Benefits} - \text{Program Costs}}{\text{Program Costs}} \times 100$$

Example

Program Benefits = $71,760 Program Costs = $32,984

BCR = _____ = _____

ROI (%) = _____ x 100 = _____

Module 5: Data Analysis

Defining the Payback Period

$$\text{Payback Period} = \frac{\text{Program Costs}}{\text{Program Benefits}} \times 12$$

Example

Program Costs = $32,984 Program Benefits = $71,760

$$\text{Payback Period} = \frac{\qquad}{\qquad} \times 12 = \_\_\_\_\_$$

A Rational Approach to ROI

- Keep the process simple.
- Use sampling for ROI calculations.
- Always account for the influence of other factors.
- Involve management in the process.
- Educate the management team.
- Communicate results carefully.
- Give credit to participants and managers.
- Plan for ROI calculations.

Module 5: Data Analysis

Identifying Intangible Benefits

Common Intangibles Linked With Programs

- Branding
- Customer Satisfaction
- Poverty
- Sustainability
- Job satisfaction
- Organizational commitment
- Work climate
- Employee complaints
- Human life
- Stress
- Employee engagement
- Leadership
- Networking
- Partnering
- Innovation
- Creativity
- Image
- Citizen complaints
- Reputation
- Teamwork
- Cooperation
- Conflict
- Decisiveness
- Communication
- Clarity
- Caring
- Capacity
- Capability
- Attention
- Accountability
- Alliances

Why Intangibles Are Important

When linked to the learning or performance improvement program, intangible measures are viewed as additional evidence of the program's success and are presented as supportive qualitative data. Data is deemed as intangible when it cannot be converted to monetary values easily, the expense of the conversion is too great, or the data cannot be isolated effectively from other factors.

The range of intangible measures is practically limitless. Intangibles do not usually carry the weight of measures that are expressed in dollars and cents, but they are still

an important part of the overall evaluation. Most successful learning initiatives result in some intangible benefits, which should be captured and reported.

The intangibles listed on the previous page are the more common ones included in studies. However, even though they may not be converted by one organization, they may be converted by another. In some situations, intangibles, such as teamwork, job satisfaction, communications, and customer satisfaction, are more important than monetary measures. Therefore, it is important to track these measures.

Sources for Intangible Benefits

- Identified during needs assessments
- Identified during early planning (with no intention to convert to monetary value)
- Clients identify intangibles
- Participants identify intangibles
- Managers identify intangibles
- Customers identify intangibles
- Intangibles are often identified when attempts at conversion are aborted

Discussion Question

Pair with a partner and discuss intangibles linked to your programs. Which ones show the greatest promise for conversion in the future?

Module 6:
Reporting and Optimizing

Module 6: Reporting and Optimizing

Case Application: Utility Services Company

Program success is reported in a variety of ways. Which would you prefer to receive?

The Program

A team-building program was conducted with 18 team leaders in the operations areas of a water, gas, and electricity services company. For each team, a variety of quality, productivity, and efficiency measures were routinely tracked to reflect team performance. The program was designed to build five essential core skills needed to energize the team to improve team performance. Productivity, quality, and efficiency measures should improve with the application of team leadership skills. The program consists of three days of classroom learning with some limited follow-up. Experiential exercises were used in most of the team-building processes. The program manager was asked to report on the success of the program. These options are available:

The Results (Option A)

Program feedback was very positive. Program participants rated the course 4.2 out of five in an overall assessment. Participants enjoyed the program and indicated that it was relevant to their jobs. Sixteen participants planned specific activities to focus on team building on the job.

The Results (Option B)

1. Program feedback was very positive. Program participants rated the course 4.2 out of five in an overall assessment. Participants enjoyed the program and indicated that it was relevant to their jobs. Sixteen participants planned specific activities to focus on team building on the job.

2. Participants learned new team leadership skills. An observation of skill practices verified that the team members acquired adequate skills in the five core team leadership skills. In a multiple choice, self-scoring test on team building and team motivation, a 48 percent improvement was realized when comparing pre and post scores.

The Results (Option C)

1. Program feedback was very positive. Program participants rated the course 4.2 out of five in an overall assessment. Participants enjoyed the program and indicated that it was relevant to their jobs. Sixteen participants planned specific activities to focus on team building on the job.

2. Participants learned new team leadership skills. An observation of skill practices verified that the team members acquired adequate skills in the five core team leadership skills. In a multiple choice, self-scoring test on team building and team motivation, a 48 percent improvement was realized when comparing pre and post scores.

3. Participants applied the skills on the job. On a follow-up questionnaire, team leaders reported high levels of use of the five core team leadership skills learned from the program. In addition, participants identified several barriers to the transfer of skills into actual job performance.

The Results (Option D)

1. Program feedback was very positive. Program participants rated the course 4.2 out of five in an overall assessment. Participants enjoyed the program and indicated that it was relevant to their jobs. Sixteen (16) participants planned specific activities to focus on team building on the job.

2. Participants learned new team leadership skills. An observation of skill practices verified that the team members acquired adequate skills in the five core team leadership skills. In a multiple choice, self-scoring test on team building and team motivation, a 48 percent improvement was realized when comparing pre and post scores.

3. Participants applied the skills on the job. On a follow-up questionnaire, team leaders reported high levels of use of the five core team leadership skills learned from the program. In addition, participants identified several barriers to the transfer of skills into actual job performance.

4. Performance records from team units reflect the following improvements in the sixth months following completion of the program: productivity has improved 23 percent, combined quality measures have improved 18 percent, and efficiency has improved 14.5 percent. While other factors have influenced these measures, the program designers feel that the team-building program had an important impact on these business measures. The specific amount cannot be determined.

The Results (Option E)

1. Program feedback was very positive. Program participants rated the course 4.2 out of five in an overall assessment. Participants enjoyed the program and indicated that it was relevant to their jobs. Sixteen (16) participants planned specific activities to focus on team building on the job.

2. Participants learned new team leadership skills. An observation of skill practices verified that the team members acquired adequate skills in the five core team leadership skills. In a multiple choice, self-scoring test on team building and team motivation, a 48 percent improvement was realized when comparing pre and post scores.

3. Participants applied the skills on the job. On a follow-up questionnaire, team leaders reported high levels of use of the five core team leadership skills learned from the program. In addition, participants identified several barriers to the transfer of skills into actual job performance.

4. Performance records from team units reflect the following improvements in the sixth months following completion of the program: productivity has improved 23 percent, combined quality measures have improved 18 percent, and efficiency has improved 14.5 percent.

Several other factors were identified, which influenced the business impact measures. Two other initiatives helped improve quality. Three other factors helped to enhance productivity and one other factor improved efficiency. Team leaders allocated the percentage of improvement to each of the factors, including the team-building program. To accomplish this, team leaders were asked to consider the connection between the various influences and the resulting performance of their teams and indicate the relative contribution of each of the factors. The values for the contribution of the team-building program are presented in Table 6.1. Because this is an estimate, a confidence value was placed on each factor with 100 percent representing certainty and 0 representing no confidence. The confidence percentage is used to adjust the estimate. This approach adjusts for the error of the uncertainty of this estimated value.

The adjustments are shown in Table 6.1.

Module 6: Reporting and Optimizing

Table 6.1: Utility services company data

	Monthly Improvement in Six (6) Months	Percent Contribution From Team Building	Average Confidence Estimate (Percent)	Adjusted Improvement in Six (6) Months
	A	**B**	**C**	**A x B x C**
Productivity	23%	57%	86%	11.3%
Quality	18%	38%	74%	5%
Efficiencies	14.5%	64%	91%	8.4%

The Results (Option F)

The data in Option E are developed plus costs and values. Recognizing that the cost of program might exceed the benefits, the program manager developed the fully loaded cost for the team-building program and compared it directly with the monetary benefits. This required converting the productivity, quality, and efficiency measures to monetary amounts using standard values available in the work units. The benefits are compared directly to the program costs using an ROI formula. Calculations are as follows:

Program Costs for 18 Participants = $54,300

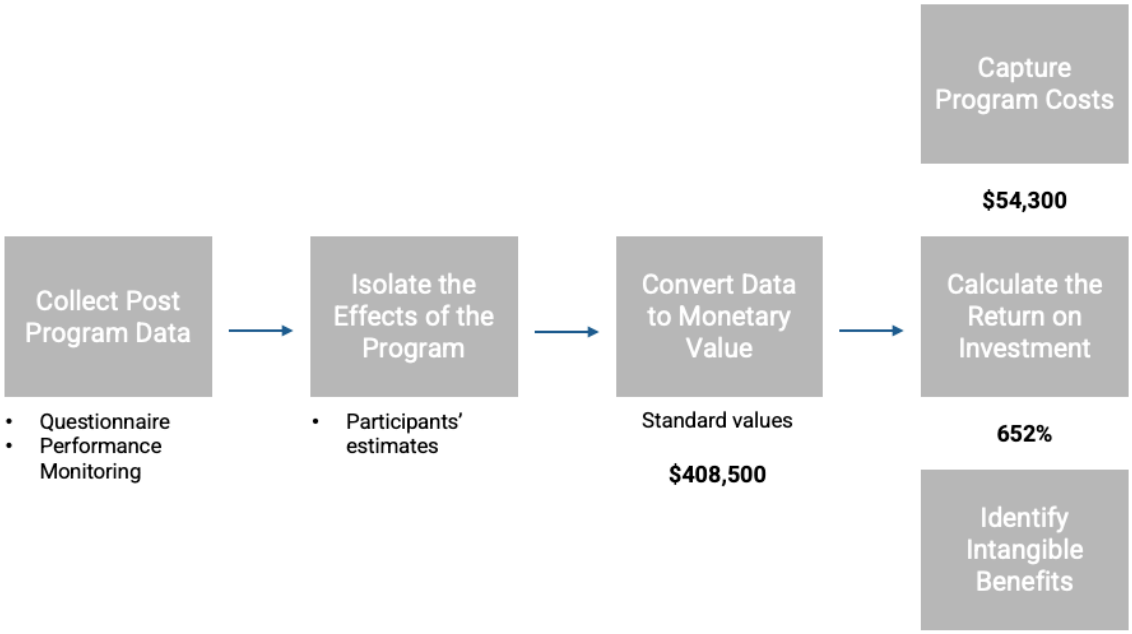
Annualized, First Year Benefits

Productivity	$197,000
Quality	$121,500
Efficiency	$90,000
Total	$408,500

$$\text{ROI (\%)} = \frac{\$408{,}500 - \$54{,}300}{\$54{,}300} \times 100 = 652\%$$

ROI Example

Figure 6.1: Utility services company data



Module 6: Reporting and Optimizing

Discussion Questions

1. Match the options as listed in the case application with levels of evaluation.

   A. _____ B. _____ C. _____ D. _____ E. _____ F. _____

2. Discuss the relative value added as each level of evaluation information is developed.

3. Which of the reporting results options is appropriate for senior management?

4. Which reports would be appropriate for the program designers and facilitators?

5. Which reports would be appropriate for the participants in the program?

6. What are the benefits of developing data at all five levels (the ROI Methodology)?

7. Why aren't more ROI evaluations conducted?

8. Which methods are used to collect post-program data?

9. Which method is used to isolate the effects of the program?

10. Which method is used to convert data to monetary value?

Module 6: Reporting and Optimizing

Communication Considerations

Common Target Audiences

Table 6.2: Common target audiences

Audience	Reason for Communication
Top management*	Secure approval
All managers	Gain support/build credibility
Participants' superiors*	Obtain commitment/build credibility
Potential participants	Create desire
Current participants*	Enhance reinforcement
Learning and development staff*	Show importance
All employees	Stimulate interest
Stockholders	Secure endorsement

*Always consider providing a report for these audiences.

Methods of Communication

Table 6.3: Methods of communication

Meetings	Brief Reports	Mass Publications
• Executives • Management • Stakeholders • Staff	• Executive summary • Slide overview • One-page summary • Brochure	• Announcements • Bulletins • Newsletters • Brief articles • Press releases

Module 6: Reporting and Optimizing

Detailed Reports	Electronic Reporting
• Impact study • Case study (internal) • Case study (external) • Major articles	• Website • Email • Blog/social media • Video

Notes

Sample Reports

Impact Study Outline

Figure 6.2: Impact study outline

I. General Information

A. Objectives of Study
B. Background

II. Methodology for Impact Study

A. Levels of Evaluation
B. Phillips ROI Methodology
C. Collecting Data
D. Isolating the Effects of Training
E. Converting Data to Monetary Values
F. Costs
G. Assumptions (Guiding Principles)

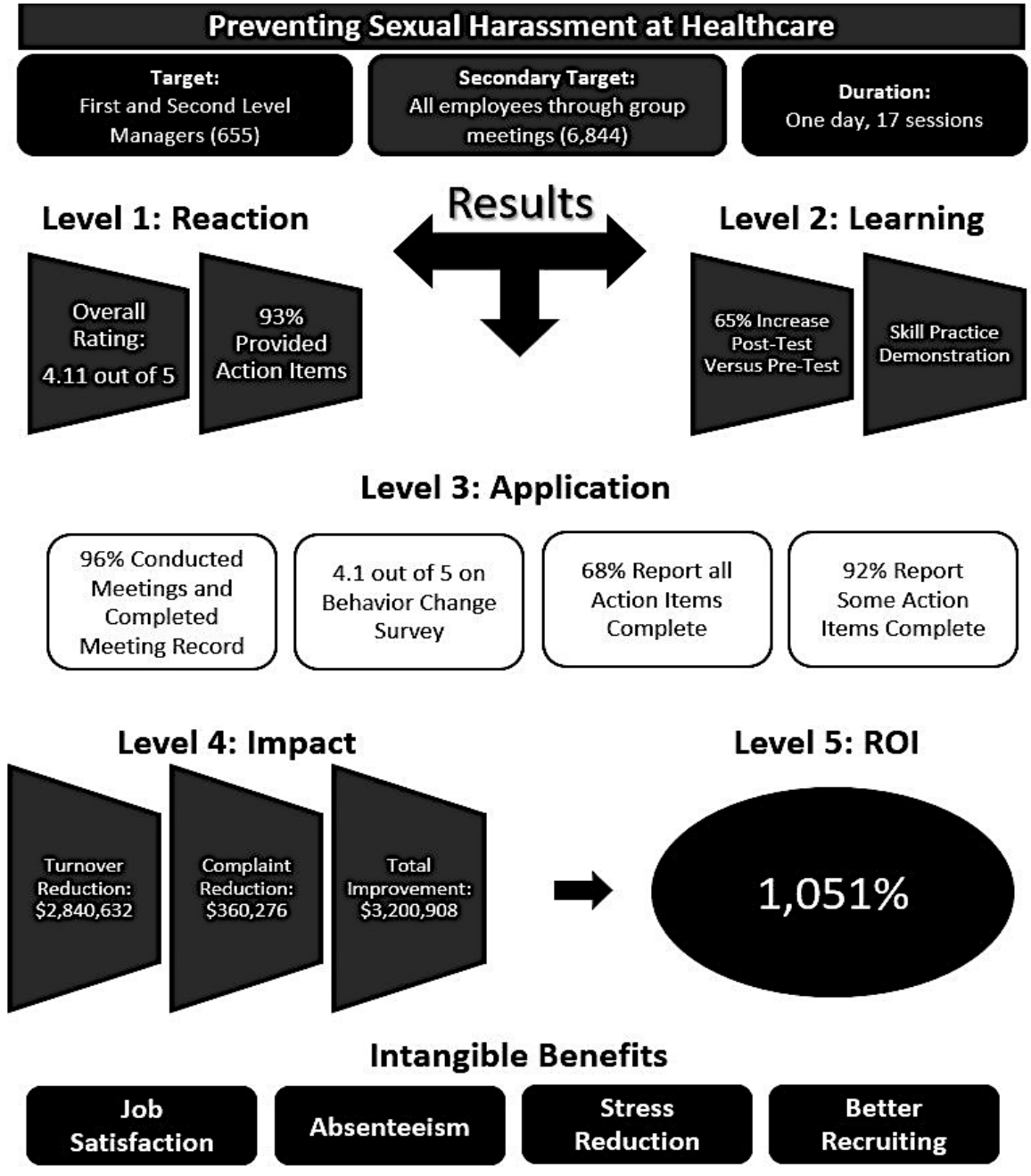
Builds credibility for the process

Module 6: Reporting and Optimizing

III.	**Results** A. General Information 1. Response Profile 2. Relevance of Materials B. Participant Satisfaction and Planned Actions C. Learning D. Application of Skills/Knowledge E. Business Impact 1. General Comments 2. Linkage With Business Measures F. ROI Calculation G. Intangible Benefits	**The results with six measures: Levels 1, 2, 3, 4, 5, and intangibles**
IV.	**Barriers and Enablers** A. Barriers B. Enablers C. Suggestions From Participants	**What is influencing the successful (or unsuccessful) application in the work setting?**
V.	**Conclusions and Recommendations** A. Conclusions B. Recommendations	
VI.	**Exhibits**	

Module 6: Reporting and Optimizing

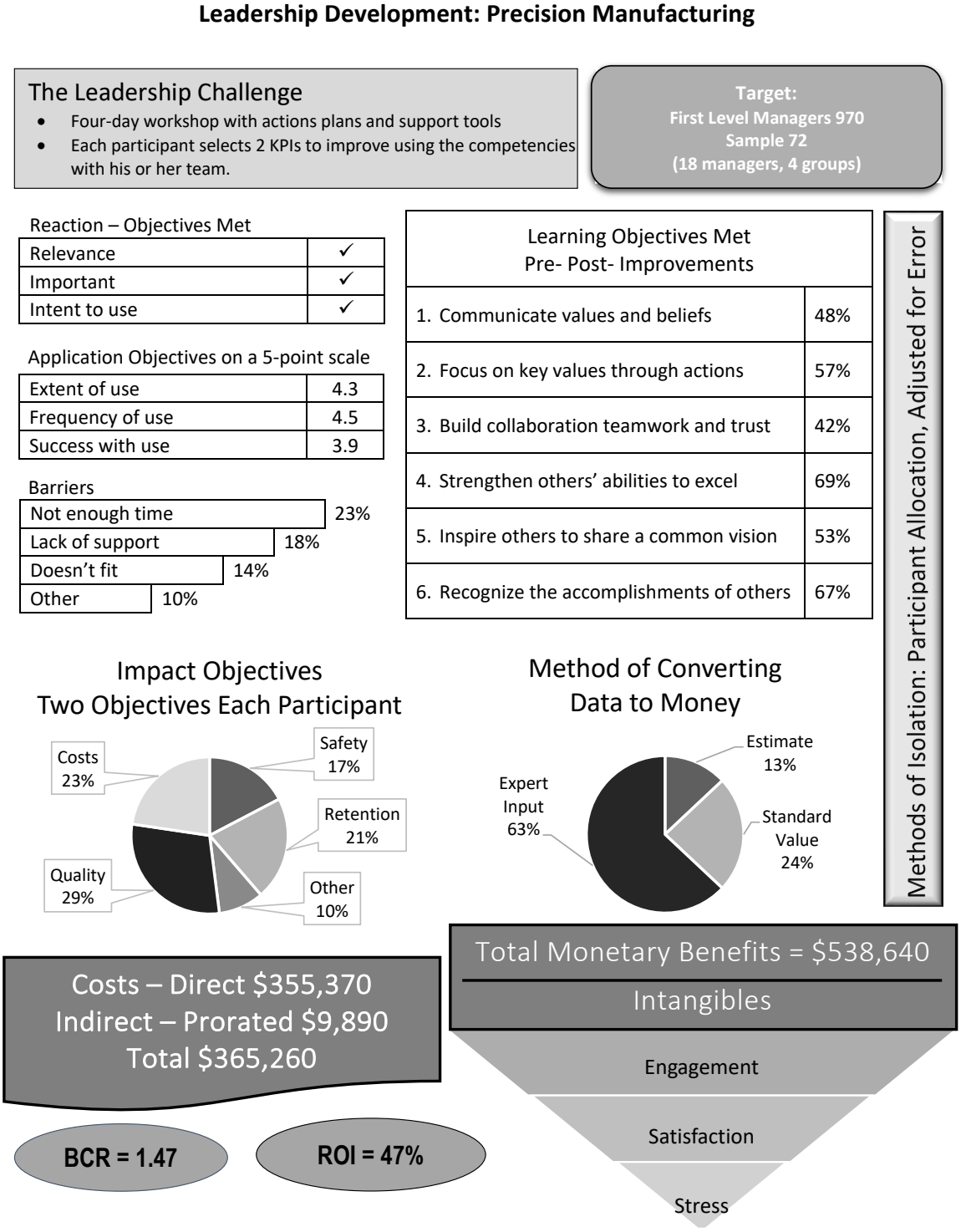
Figure 6.3: One-page summary



- **Technique to Isolate Effects of Program:** Trendline analysis; participant estimation
- **Technique to Convert Data to Monetary Value:** Historical costs; internal experts
- **Fully-loaded Program Costs:** $277,987

Module 6: Reporting and Optimizing

Figure 6.4: One-page summary



Module 6: Reporting and Optimizing

Scorecard: Seven Categories of Data

Figure 6.5: Scorecard report

0. Indicators		• Number of employees involved • Total hours of involvement hours per employee • Training investment as a percent of payroll • Cost per participant
I. Reaction and Planned Action		• Percent of programs evaluated at this level • Ratings on 7 items vs. target • Percent with action plans • Percent with ROI forecast
II. Learning		• Percent of programs evaluated at this level • Types of measurements • Self-assessment ratings on 3 items vs. targets • Pre/post-average differences
III. Application		• Percent of programs evaluated at this level • Ratings on 3 items vs. targets • Percent of action plans complete • Barriers (list of top 10) • Enablers (list of top 10) • Management support profile
IV. Business Impact		• Percent of programs evaluated at this level • Linkage with business measures (list of top 10) • Types of measurement techniques • Types of methods to isolate the effects of program • Investment perception
V. ROI		• Percent of programs evaluated at this level • ROI summary for each study • Methods of converting data to monetary values • Fully-loaded cost per participant
Intangibles		• Intangibles (list of top 10) • How intangibles were captured

Module 6: Reporting and Optimizing

Table 6.6: Use of evaluation data

Use of Evaluation Data	Appropriate Level of Data				
	1	2	3	4	5
Adjust Program Design	✓	✓			
Improve Program Delivery	✓	✓			
Influence Application and Impact			✓	✓	
Enhance Reinforcement			✓		
Improve Management Support			✓	✓	
Improve Stakeholder Satisfaction			✓	✓	✓
Recognize and Reward Participants		✓	✓	✓	
Justify or Enhance Budget				✓	✓
Develop Norms and Standards	✓	✓	✓		
Reduce Costs		✓	✓	✓	✓
Market Talent Development Programs	✓		✓	✓	✓
Expand Implementation to Other Areas				✓	✓

Module 6: Reporting and Optimizing

Delivering Bad News

- Never fail to recognize the power to learn and improve with a negative study.
- Look for red flags along the way.
- Lower outcome expectations with key stakeholders along the way.
- Look for data everywhere.
- Never alter the standards.
- Remain objective throughout the process.
- Prepare the team for the bad news.
- Consider different scenarios.
- Find out what went wrong.
- Say: “Now we have data that shows how to make this program more successful.” This becomes a positive spin on less-than-positive data.
- Drive improvement.

Discussion Question

How do you use the evaluation data?

Module 6: Reporting and Optimizing

Process Improvement Is the Key: Black Box Thinking

Figure 6.7: Process improvement model

Failures in Programs

When examining all types of programs, we know:

1. More than half of programs are wasted (not used or implemented, although we want them to be used). The culprit: failure in the system.

2. Most program evaluators do not measure success at the levels desired by top executives (Levels 4 and 5). The culprit: fear of results (perceived failure).

The failure of programs (or the fear of failure) is serious, although it may seem trivial. After all, what will it hurt if participants:

1. Are involved in a program when they are not in a role or situation to make the program successful?

2. Are not interested in the program content, information, or concepts and are not motivated to use it?

3. Choose not to learn how to make the program successful?

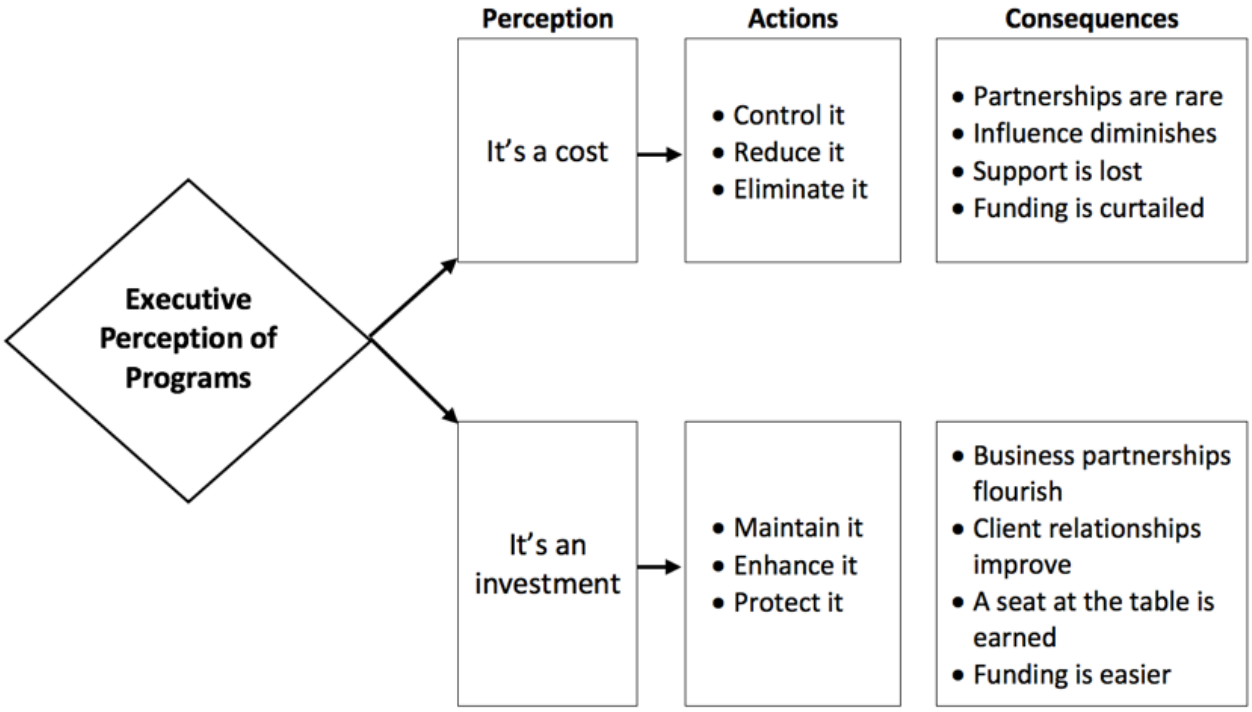
4. Fail to take action to make the program successful?

Module 6: Reporting and Optimizing

This is not so important until you consider the number of programs in governments, NGOs, nonprofits, and businesses.

Costs vs. Investment Perception: The Reality

Figure 6.8: Cost versus investment model



Discussion Questions

1. Do your executives or sponsors see your work as a cost or an investment? Explain.

2. If it is perceived as an investment, how did they reach that conclusion?

3. If it is seen as a cost, what will you do to convince them that it is an investment?

Module 7:
Implementation

Module 7: Implementation

Management Influence

- Management commitment
- Management support
- Management reinforcement
- Management involvement

ROI Dilemmas

- If the CEO or other executive are requiring ROI, it may be too late for the process.
- The time to pursue ROI is when you do not have to pursue it.
- The ROI process is not a quick fix.
- If L&D does not see the need for ROI, it will usually fail.
- Without the cooperation of participants, the ROI process will usually fail.
- Without the support of management, the ROI process will usually fail.
- The ROI process requires much education with a variety of groups.

Discussion Question

What is your reaction to these dilemmas?

Module 7: Implementation

Implementation Concerns

Considerations

- Resources (staffing/budget)
- Leadership (individual, group, cross-functional team)
- Timing (urgency, activities)
- Communication (various audiences)
- Commitment (staff, managers, top executives)

To effectively implement the ROI process, I need to:

Cost-Savings Approaches to ROI

- Plan for evaluation early in the process.
- Build evaluation into the learning process.
- Share the responsibilities for evaluation.
- Require participants to conduct major steps.
- Use sampling to select the most appropriate programs for ROI analysis.
- Use estimates in the collection and analysis of data.
- Develop internal capability to implement the ROI process.
- Use web-based software to reduce time.
- Streamline the reporting process.

What cost-savings approaches can you implement?

Module 7: Implementation

What Next?

Implementing a Comprehensive ROI Process

- Assess your progress and readiness.
- Develop a policy and philosophy statement on results-based approach.
- Clarify roles:
  - Staff
  - Team members
  - Supervision and management
- Establish accountability.
- Develop a transition plan.
- Set targets for evaluation levels.
- Develop guidelines.
- Build staff skills.
- Establish a management support system.
- Enhance management commitment and support.
- Communicate results to selective audiences.
- Establish a quality review process.

Key Implementation Actions

1. Determine/establish responsibilities.
2. Develop skills/knowledge with ROI.

Module 7: Implementation

3. Develop transition/implementation plan.
4. Conduct ROI studies.
5. Prepare/revise evaluation, policy/procedures/guidelines.
6. Train/brief managers on the ROI process.
7. Communicate progress/results.

Which actions will you pursue?

- _____

  _____

- _____

  _____

- _____

  _____

Module 7: Implementation

Setting Evaluation Targets

Here is an example of evaluation targets for a large telecommunications company. In the blank space provided, write targets for your organization.

Table 7.1: Evaluation targets

Level	Target	Your Target
Level 1: Reaction	100%	%
Level 2: Learning	80%	%
Level 3: Application	30%	%
Level 4: Impact	10%	%
Level 5: ROI	5%	%

Discussion Question

How would you set similar targets for evaluation in your organization?

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Case Application

Appendix: Case Application

International Car Rental

Part A

BACKGROUND

Profile

International Car Rental (ICR) operates in 27 countries with 27,000 employees. The US division has 13,000 employees and operates in most major cities in the United States. The auto rental business is very competitive, and several major firms have been forced into bankruptcy in the last few years. The industry is very price-sensitive, and customer service is critical. Operating costs must be managed carefully to remain profitable. Senior executives are exploring a variety of ways to improve ICR, and they perceive that developing leadership competencies for first-level managers would be an excellent way to achieve profitable growth and efficiency.

The Need

A recent needs assessment for all functional areas conducted by the learning and development staff determined that several leadership competencies were needed for first-level managers. The needs included typical competencies such as problem-solving, counseling, motivation, communication, goal setting, and feedback. In addition to developing these competencies, the L&D staff attempted to link the competencies to job performance needs and business needs. However, the senior management team did not want the L&D staff to visit all locations to discuss business needs and job performance issues. The senior executives were convinced that leadership skills were needed and that these skills would drive a variety of business measures when applied in the work units. The L&D team was challenged to identify the measures influenced by this program. Additionally, top executives were interested in knowing the impact and maybe even ROI for a group of US participants in this program.

Appendix: Case Application

This challenge created a dilemma. The L&D staff members realized that for a positive ROI study to be generated, the program should be linked to the business needs. However, in reality, they did not have the time, resources, or the encouragement to conduct a more comprehensive analysis linking the need for the leadership development to business needs. The team was faced with the challenge of connecting this program to business impact. They thought that perhaps the participants themselves could help with this task.

Attempting to address the needs, the L&D staff developed a new program, the Leadership Challenge, designed for team leaders, supervisors, and managers who are responsible for those who actually do the work (i.e., the first level of management). Program participants may be located in rental offices, service centers, call centers, regional offices, and headquarters. Most functional areas are represented such as operations, customer service, service and support, sales, administration, finance and accounting, and IT. Essentially, this is a cross-functional program for this important job in the organization.

The Leadership Challenge involves four days of off-the-job learning with input from the immediate manager who serves as a coach for some of the learning processes. Before attending the program, participants must complete an online prework instrument and read a short book. Because a few senior executives at ICR have challenged the L&D staff to show the business impact of this program, two groups were evaluated with 36 participants (i.e., 18 in one group and 18 in the other).

Business Alignment

In an attempt to link the program to business needs and job performance needs, prior to attending the program, each manager was asked to identify at least two business measures in the work unit that represent an opportunity for improvement. The measure

should come from operating reports, cost statements, or scorecards. The selected measures had to meet an additional two-part test.

1. Each measure had to be under the control of the team when improvements were to be considered, and

2. Each measure had to have the potential to be influenced by team members with the manager using the competencies in the program. A description of the program was provided in advance, including a list of objectives and skill sets.

While there was some concern about the thoroughness of the needs assessment, it appeared appropriate for the situation. The initial needs assessment on competencies uncovered a variety of deficiencies across all the functional units and provided the information necessary for job descriptions, assignments, and key responsibility areas. Although very basic, the additional steps taken to connect the program to business impact were appropriate for a business needs analysis and a job performance needs analysis. Identifying two measures needing improvement is a simple business needs analysis for the work unit. Restricting the selected measures to only those that can be influenced by the team with the leader using the skills from the program essentially defines a job performance need. (In essence, the individual leader is identifying something that is not currently being done in the work unit that could be done to enhance the business need.) Although more refinement and detail would be preferred, the results of the assessment process should suffice for this project.

Objectives

The L&D staff developed these objectives for the program:

1. Participants will rate the program as relevant to their jobs.

2. Participants will rate the program as important to their job success.

Appendix: Case Application

3. Participants must demonstrate acceptable performance on each major competency.
4. Participants will utilize the competencies with team members on a routine basis.
5. Participants and team members will drive improvements in at least two business measures.

Discussion Questions

1. Discuss the approach for needs assessment and business alignment.

2. Should this program be evaluated to show business impact from ROI? Explain.

3. Complete the attached data collection plan.

Appendix: Case Application

Data Collection Plan

Program: The Leadership Challenge **Responsibility:** Learning & Development Staff **Date:** 2003

Level	Objectives	Measures/ Data	Data Collection Method	Data Sources	Timing	Responsibilities
1	**Reaction/ Satisfaction** • Participants rate the program as relevant "to their jobs" • Participants rate the program as important to their job success	• 4 out of 5 on a 5-point rating scale	• Questionnaire	• Participants	• End of Program	• Facilitator
2	**Learning** • Participants demonstrate acceptable performance on each major competency	• 2 out of 3 on a 3-point scale	• Observation of skill practices • Self-assessment via question-naire	• Facilitator • Participants	• End of Program • End of Program	• Facilitator • Facilitator

Appendix: Case Application

Level	Objectives	Measures/ Data	Data Collection Method	Data Sources	Timing	Responsibilities
3	**Application/ Implementation** • Participants utilize the competencies with team members on a routine basis					
4	**Business Impact** • Participants and team members drive improvements in at least two business measures					
5	**ROI** Achieve a 20% ROI	Comments9:				

Appendix: Case Application

Part B

ROI Appropriateness

With the business and job performance needs assessment complete, this program became a good candidate for the ROI. Without these two steps, it would be difficult to conduct a successful ROI study. A consideration for conducting the ROI study is identifying the drivers for ROI analysis. In this case, the senior team was challenging the value of leadership development. An ROI study should provide convincing evidence about a major program. Also, this is a highly visible program that should be evaluated at this level. It was strategic and expensive. Consequently, the L&D staff pursued the ROI study, and an ROI objective of 20 percent was established.

ROI Planning

Data Collection Plan

Review the completed Data Collection Plan. Although several data collection methods were possible, the team decided to use a detailed follow-up questionnaire to reflect the progress made with the program. Focus groups, interviews, and observations were considered too expensive or inappropriate. The L&D team explored the possibility of using the 360º feedback process to obtain input from team members but elected to wait until the 360º program was fully implemented in all units in the organization. Thus, the questionnaire was the least expensive and least disruptive method.

The questionnaire would be sent directly to the participant three months after program completion. At the same time, a shorter questionnaire would be sent to the participant's immediate manager. Initially, a six-month follow-up was considered instead of a three-month follow-up as shown on the plan. However, the L&D staff thought that six months

was too long to wait for results and too long for managers to make the connection between the program and the results.

Discussion Questions

1. What topics should be explored in the follow-up questionnaire?

2. How can a response rate of 70 percent be achieved for a five-page anonymous questionnaire to this target audience?

Appendix: Case Application

Data Collection Plan

Program: _____ Responsibility: _____ Date: _____

Level	Objectives	Measures/ Data	Data Collection Method	Data Sources	Timing	Responsibilities
1	**Reaction/ Satisfaction** Participants rate the program as relevant to their jobs Participants rate the program as important to their job success	4 out of 5 on a 5-point rating scale	Questionnaire	Participants	End of Program	Facilitator
2	**Learning** Participants demonstrate acceptable performance on each major competency	2 out of 3 on a 3-point scale	Observation of skill practices Self-assessment via questionnaire	Facilitator Participants	End of Program End of Program	Facilitator Facilitator
3	**Application/ Implementation** Participants utilize the competencies with team members on a routine basis	Various measures (ratings, open-ended items, etc.)	Questionnaire Questionnaire	Participants Participants' Manager	3 months	L&D Staff

Appendix: Case Application

Level	Objectives	Measures/ Data	Data Collection Method	Data Sources	Timing	Responsibilities
4	**Business Impact** Participants and team members drive improvements in at least two business measures	Various work unit measures	Questionnaire	Participants	3 months	L&D Staff
5	**ROI** Achieve a 20% ROI	Comments:				

Appendix: Case Application

Part C

Questionnaire Topics

While the topics explored may vary considerably, the Follow-Up Questionnaire shows used with this group. Important areas explored included application of skills, impact analysis, barriers to application, and enablers. A similar questionnaire, which explored the role of the manager in the coaching process, was sent to the next level managers without the questions on the impact data.

To improve the response rates, a variety of techniques were explored. Twelve techniques were used by the group to obtain a response rate of 81 percent. One of the most important techniques was to review the questionnaire with participants—question by question—at the end of the four-day workshop, clarifying the issues, creating expectations, and gaining commitment to provide data. Third-party collection was achieved by using automated external data collection. Essentially, the data is sent by email to the data collector's server.

Strategy for Increasing Response Rates

- ☐ Provide advance communication about the questionnaire.
- ☐ Clearly communicate the reason for the questionnaire.
- ☐ Indicate who will see the results of the questionnaire.
- ☐ Show how the data will be integrated with other data.
- ☐ Communicate the time limit for submitting responses.
- ☐ Review the questionnaire at the end of the formal session.
- ☐ Allow for responses to be anonymous—or at least confidential.
- ☐ Provide two follow-up reminders, using a different medium.
- ☐ Have the introduction letter signed by a top executive.
- ☐ Enclose a giveaway item with the questionnaire (pen, money, etc.).
- ☐ Send a summary of results to the target audience.
- ☐ Have a third party collect and analyze the data.

Appendix: Case Application

Discussion Questions

1. What is the recommended method for isolating the effects of the program?

2. How can the data be converted to monetary value?

3. What period of time should be used for the monetary benefits? Three months? Six months? One year? Two years?

Follow-Up Questionnaire

Program Name _____ End Date of Program _____

Our records indicate that you participated in the above program. Your participation in this follow-up survey is important to the continuous improvement of the program. Completion of this survey may take 45 to 60 minutes. Thank you in advance for your input.

CURRENCY

1. This survey requires some information to be completed in monetary value. Please indicate the currency you will use to complete the questions requiring monetary value. _____

PROGRAM COMPLETION

2. Did you ○ complete ○ partially complete ○ not complete the program? If you did not complete, go to the final question.

REACTION

	Strongly Agree				Strongly Disagree	
	5	**4**	**3**	**2**	**1**	**n/a**
3. I recommended the program to others.	○	○	○	○	○	○
4. The program was a worthwhile investment for my organization.	○	○	○	○	○	○
5. The program was a good use of my time.	○	○	○	○	○	○
6. The program was relevant to my work.	○	○	○	○	○	○
7. The program was important to my work.	○	○	○	○	○	○
8. The program provided me with new information.	○	○	○	○	○	○

LEARNING

Appendix: Case Application

		Strongly Agree				Strongly Disagree	
		5	**4**	**3**	**2**	**1**	**n/a**
9.	I learned new knowledge/skills from this program.	○	○	○	○	○	○
10.	I am confident in my ability to apply the knowledge/skills learned from this program.	○	○	○	○	○	○

11.	Rate your level of improvement in skill or knowledge derived from the program content. 0% = no improvement and 100% = significant improvement.	0 % ○	10 % ○	20 % ○	30 % ○	40 % ○	50 % ○	60 % ○	70 % ○	80 % ○	90 % ○	100 % ○

APPLICATION

		Major Extent				Minor Extent	
		5	**4**	**3**	**2**	**1**	**n/a**
12.	To what extent did you apply the knowledge/skills learned during the program?	○	○	○	○	○	○

		Frequently				Infrequently	
		5	**4**	**3**	**2**	**1**	**n/a**
13.	How frequently did you apply the knowledge/skills learned during the program?	○	○	○	○	○	○

		High				Low	
		5	**4**	**3**	**2**	**1**	**n/a**
14.	What is your level of effectiveness with the knowledge/skills learned during the program?	○	○	○	○	○	○
15.	Rate the effectiveness of the coach.	○	○	○	○	○	○

		Very Critical				Not Critical	
		5	**4**	**3**	**2**	**1**	**n/a**
16.	How critical is applying the content of this program to your job success?	○	○	○	○	○	○

		5	**4**	**3**	**2**	**1**	**n/a**
17.	To what extent did you stay on schedule with your planned actions?	○	○	○	○	○	○

18.	What percent of your total work time did you spend on tasks that require the knowledge/skills presented in this program?	0 ○	10 ○	20 ○	30 ○	40 ○	50 ○	60 ○	70 ○	80 ○	90 ○	100 ○

BARRIERS/ENABLERS TO APPLICATION

19. Which of these deterred or prevented you from applying the knowledge/skills learned in the program? (check all that apply.)
    - ☐ no opportunity to use the skills
    - ☐ lack of management support
    - ☐ lack of support from colleagues and peers
    - ☐ insufficient knowledge and understanding
    - ☐ lack of confidence to apply knowledge/skills
    - ☐ systems and processes within organization will not support application of knowledge/skills
    - ☐ other

Appendix: Case Application

20. If you selected “other” above, please describe here.

21. Which of these supported you in applying knowledge/skills learned in the program? (Check all that apply.)
    - ☐ opportunity to use the skills
    - ☐ management support
    - ☐ support from colleagues and peers
    - ☐ sufficient knowledge and understanding
    - ☐ confidence to apply knowledge/skills
    - ☐ systems and processes within organization will support application of knowledge/skills
    - ☐ other
22. If you selected “other” above, please describe here.

RESULTS – 1st Measure

23. Please define the first measure you selected and its unit for measurement. For example, if you selected “sales,” your unit of measure may be “one closed sale.”
24. For this measure, what is the monetary value of improvement for one unit of this measure? For example, the value of a closed sale is sales value times the profit margin ($10,000 x 20%=$2,000). Although this step is difficult, please make every effort to estimate the value of a unit. Put the value in the currency you selected, round to the nearest whole value, enter numbers only. (e.g., $2,000.50 should be input as $2,000.)
25. State your basis for the value of the unit of improvement you indicated above. In the closed sale example, a standard value, profit margin, is used, so “standard value” is entered here.
26. For the measure listed as most directly linked to the program, how much has this measure improved in performance? If not readily available, please estimate. If you selected “sales,” show the actual increase in sales (e.g., four closed sales per month, input the number four here). You can input a number with up to one decimal point. Indicate the frequency base for the measure.

☐ daily ☐ weekly ☐ monthly ☐ quarterly

RETURN ON INVESTMENT – 1st Measure

27. What is the annual value of improvement in the measure you selected above? Multiply the increase (question 26) by the frequency (question 26) times the unit of value (question 24). For example, if you selected “sales,” multiply the sales increase by the frequency to arrive at the annum value (e.g., four sales per month x 12 x 2,000=$96,000). Although this step is difficult, please make every effort to estimate the value. Put the value in the currency you selected, round to nearest whole value, enter numbers only. (e.g., $96,000.50 should be input as 96,000.)
28. List the other factors that could have influenced these results.
29. Recognizing that the other factors could have influenced this annual value of improvement, please estimate the percent of improvement that is attributable (i.e., isolated) to the program. Express as a percentage out of 100%. For example, if only 60% of the sales increase is attributable to the program, enter 60 here. _____%
30. What confidence do you place in the estimates you have provided in the questions above? A 0% is no confidence, a 100% is certainty. Round to nearest whole value, and enter a number only (e.g., 37.5% should be entered as 38). _____%

Appendix: Case Application

RESULTS – 2nd Measure

31. Please define the second measure you selected and its unit for measurement. For example, if you selected "sales," your unit of measure may be "one closed sale."
32. For this measure, what is the monetary value of improvement for one unit of this measure? For example, the value of a closed sale is sales value times the profit margin ($10,000 x 20%=$2,000). Although this step is difficult, please make every effort to estimate the value of a unit. Put the value in the currency you selected, round to nearest whole value, and enter numbers only (e.g., $2,000.50 should be input as $2,000).
33. Please state your basis for the value of the unit of improvement you indicated above. In the closed sale example, a standard value, profit margin, is used, so "standard value" is entered here.
34. For the measure listed as most directly linked to the program, how much has this measure improved in performance? If not readily available, please estimate. If you selected "sales," show the actual increase in sales (e.g., four closed sales per month, input the number four here). You can input a number with up to one decimal point. Indicate the frequency base for
    the measure. _____

    ☐ daily ☐ weekly ☐ monthly ☐ quarterly

RETURN ON INVESTMENT – 2nd Measure

35. What is the annual value of improvement in the measure you selected above? Multiply the increase (question 34) by the frequency (question 34) times the unit of value (question 32). For example, if you selected "sales," multiply the sales increase by the frequency to arrive at the annum value (e.g., four sales per month x 12 x 2,000=$96,000). Although this step is difficult, please make every effort to estimate the value. Put the value in the currency you selected, round to nearest whole value, and enter numbers only (e.g. $96,000.50 should be input as 96,000).
36. List the other factors that could have influenced these results.
37. Recognizing that the other factors could have influenced this annual value of improvement, please estimate the percent of improvement that is attributable (i.e., isolated) to the program. Express as a percentage out of 100%. For example, if only 60% of the sales increase is attributable to the program, enter 60 here. _____%
38. What confidence do you place in the estimates you have provided in the questions above? A 0% is no confidence; a 100% is certainty. Round to nearest whole value, and enter a number only (e.g., 37.5% should be entered as 38). _____%
39. What other benefits have been realized from this program?
40. Please estimate your direct costs of travel and lodging for your participation in this program. Put the value in the currency you selected, round to nearest whole value, and enter numbers only (e.g., $10,000.49 should be input as $10,000).
41. Please state your basis for the travel and lodging cost estimate above.

FEEDBACK

42. How can we improve the training to make it more relevant to your job?

Appendix: Case Application

ROI Analysis Plan

Program: _____ Responsibility: _____ Date: _____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communi-cation Targets for Final Report	Other Influences/ Issues During Application	Comments

Appendix: Case Application

Part D

ROI Analysis Plan

The completed ROI Analysis Plan details the specific issues that must be addressed, and the techniques selected to complete the ROI analysis.

Method of Isolation. The isolation method proved challenging. Since the managers represent different functional areas, there was no finite set of measures that could be linked to the program for each participant. Each manager could have a different set of measures as they focused on specific business needs in the work unit. Consequently, the use of a control group was not feasible. In addition, the trend line analysis and forecasting methods proved to be inappropriate for the same reason. Therefore, the evaluation team had to collect estimations directly from participants on the questionnaire. Question 29 isolates the effects of this program using an estimate. Question 30 adjusts for the error of the estimate. The challenge is to ensure that participants understand this issue and are committed to provide data for this isolation.

Converting Data to Monetary Value. The data conversion is obtained directly from participants as they are asked to identify or estimate the value of their data. In the planning, it was assumed that there were only a few feasible approaches for participants to place monetary value on measures. Since there was little agenda time to discuss this issue, the L&D staff had to rely on easy-to-obtain data using three options. The good news is that in this organization, as with many others, standard values exist for the measures that matter and that was the first option. If it's a measure that the company wants to increase, such as productivity or sales, someone has placed a value on that measure to show the contribution of the improvement. If it's a measure the company wants to reduce, such as turnover, accidents, or absenteeism, someone has

more than likely placed a monetary value to show the impact of these critical measures. Consequently, the participants were asked to use standard values if they were available.

If these were not available as a second option participants were asked to call an internal expert who knew more about that measure. In many cases, this was an individual from the department furnishing a particular report. After all, the data came directly from the operating reports. Essentially, this is expert input. If neither a standard was available nor experts identifiable, the last option was for the participants to estimate the value. Since this is a measure that matters to the participant, they should have some perception about the value of improving it.

The actual amount is entered on Question 24. Then, Question 25 provides the basis for showing the details for how that value is developed. Question 25 is very critical. If left blank, the business impact measure is removed from the analysis under the principle of not using an unsupported claim in the analysis. Incidentally, the participants were informed about this principle as the questionnaire was reviewed with them at the end of the workshop.

Appendix: Case Application

ROI Analysis Plan

Program: _____ Responsibility: _____ Date: _____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communi-cation Targets for Final Report	Other Influences/ Issues During Application	Comments
Varies, depending on measures selected	Participant estimate	Standard value Expert value Participant estimate	Needs Assessment (Prorated) Program Dev. (Prorated) Facilitation fees Pro. materials Facilitation & coordination Meals and refresh-ments Facilities Participant salaries &	Job satisfac-tion for first-level managers Job satisfac-tion for team members Improved teamwork Improved communi-cation	Participants (first level managers) Participants managers Senior executives L&D staff Prospective participants Learning & development council members	Several process improvement initiatives are ongoing during this program implementa-tion	Must gain commitment to provide data A high response rate is needed

Appendix: Case Application

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communi-cation Targets for Final Report	Other Influences/ Issues During Application	Comments
			benefits—for time away from work Mgrs. salaries & benefits—for time involved in program Cost of overhead Evaluation				

Appendix: Case Application

Costs. The costs for the program were typical—analysis, design, development, and delivery components—and represented the fully loaded costs containing both direct and indirect categories.

Other Issues. The L&D team anticipated some intangible benefits and, consequently, added a question to identify improvements in these intangible benefits (Question 39). To ensure that all the key stakeholders are identified, the evaluation team decided on which groups should receive the information in the impact study. Six specific groups were targeted for communication. The remainder of the ROI analysis plan lists other issues about the study.

Results

Twenty-nine questionnaires were returned for an 81 percent response rate. Participants provided a rich database indicating success at each level of evaluation.

Reaction

Table Appendix-1 shows the reaction from the Follow-Up Questionnaire. Although some initial reaction was collected at the end of the workshop using a standard reaction questionnaire, the team decided to collect and present to the senior team the reaction obtained in the follow up. Each of the reaction measures exceeded the goal of a 4.0 rating, except for the issue about the amount of new information, which was slightly less than the desired level.

Appendix: Case Application

Table Appendix-1: Reaction data from participants

Issue	Rating*
Recommended to Others	4.2
Worthwhile Investment	4.1
Good Use of Time	4.6
Relevant to My Work	4.3
Important to My Work	4.1
Provided Me With New Information	3.9

*Rating: 1 = Strongly Disagree; 5 = Strongly Agree

Learning

Although several skill practices and self-assessments were taken during the workshop to measure learning, the team decided to present the learning data directly from the Follow-Up Questionnaire. As shown in Table Appendix-2, the learning measures met or exceeded expectations in terms of the amount of new skills and knowledge and confidence in using them. Also, the average skill or knowledge improvement was 48 percent (Question 11).

Table Appendix-2: Learning data from participants

Issue	Rating*
Learned New Knowledge/Skills	4.3
Confident in My Ability to Apply New Knowledge/Skills	4.1

*Rating: 1 = Strongly Disagree; 5 = Strongly Agree

Appendix: Case Application

Application

Table Appendix-3 shows application data obtained in the Follow-Up Questionnaire. The applications exceeded expectations, and the effectiveness of the coach rating was a particular highlight. The percent of time spent on tasks requiring the use of knowledge/skills averaged 43 percent (Question 18). The participants' managers received the questionnaire primarily about the coaching component, and they reported success. They routinely coached the participant when requested and frequently reinforced the use of the skills.

Table Appendix-3: Application data from participants

Issue	Rating*
Extent of Use of Knowledge/Skills	4.3
Frequency of Application of Knowledge/Skills	3.8
Effectiveness With Using Knowledge/Skills	4.3
Effectiveness of Coach	4.7
Criticalness to Job	4.2

*Rating: 1 = Lowest; 5 = Highest

Barriers and Enablers

Much to the surprise of the staff, the barriers were minimal, and the enablers were strong. The program enjoyed good management support and was tailored to the job environment. Thus, there were few barriers that prevented the transfer of learning, and the enablers were built into the program. Tables four and five, respectively, show the barriers and enablers.

Appendix: Case Application

Table Appendix-4: Top 5 barriers identified by participants

Barrier	Frequency
No Opportunity to Use Skills	24%
Lack of Support From Colleagues and Peers	17%
Insufficient Knowledge and Understanding	17%
Lack of Management Support	10%
Lack of Confidence to Apply Learning	7%

Table Appendix-5: Top 5 enablers identified by participants

Enablers	Frequency
Management Support	55%
Opportunity to Use Skills	51%
Confidence to Apply Learning	38%
Support From Colleagues and Peers	34%
Sufficient Knowledge and Understanding	34%

Business Impact

Business impact data (level 4) is shown in Table Appendix-6. This table shows specific improvements identified directly from the questionnaire, by participant number, for the first 15 participants. To save space, the remaining 14 participants are included as a total. Usually, each participant provided improvements on two measures. The total for the second measure is shown at the bottom of Table Appendix-6. The linkage between the questions in the questionnaire and the columns in this table are highlighted. The total annual improvement for each measure is reported first.

Appendix: Case Application

Incidentally, the specific measure was identified and could be reported as well, but to reduce confusion, only the measure categories were reported. The heading “Converting Data to Monetary Value” shows the extent to which the three options were used to convert data to monetary value. Most participants selected “Standard” as standard values were readily available. The column of “Other Factors” indicates the number of other factors that contributed to the results. In most cases, several factors were present. No more than four other factors were identified in any section. In a few cases, there were no other factors. In summary, the standard values were used 71 percent of the time, and other factors were identified 85 percent of the time.

Appendix: Case Application

Table Appendix-6: Business impact data

							Total Monetary Benefits
	Q27	Q23	Q25	Q29	Q28	Q30	Q27xQ29x Q30
Participant Number	Annual Improvement	Measure	Converting Data to Monetary Value	Contribution From Program	Other Factors	Confidence Estimate	Adjusted Value
1	$ 13,100	Sales	Standard	60%	3	80%	$ 6,288
3	41,200	Productivity	Expert	75%	1	95%	29,355
4	5,300	Sales	Standard	80%	1	90%	3,816
6	7,210	Cost	N/A	70%	2	70%	3,533
9	4,215	Efficiency	Standard	40%	3	75%	1,265
10	17,500	Quality	Expert	35%	4	60%	3,675
12	11,500	Time	Standard	60%	2	80%	5,520
14	3,948	Time	Standard	70%	1	80%	2,212
15	14,725	Sales	Standard	40%	3	70%	4,123
17	6,673	Efficiency	Estimate	50%	3	60%	2,002
18	12,140	Costs	N/A	100%	0	100%	12,140
19	17,850	Sales	Standard	60%	2	70%	7,497
21	13,920	Sales	Standard	50%	3	80%	5,568

Appendix: Case Application

							Total Monetary Benefits
	Q27	Q23	Q25	Q29	Q28	Q30	Q27xQ29x Q30
Participant Number	Annual Improvement	Measure	Converting Data to Monetary Value	Contribution From Program	Other Factors	Confidence Estimate	Adjusted Value
22	15,362	Cost	N/A	40%	4	90%	5,530
23	18,923	Sales	Standard	60%	1	75%	8,515
					Total for the items above		$ 101,039
					Total for the next 14 items		$ 84,398
					Total for 2nd measure		$ 143,764
					Total Benefits		$ 329,201

Appendix: Case Application

Costs

The total cost of the program, using a fully loaded analysis, is shown in Table Appendix-7. The needs assessment was prorated over four years, based upon the anticipated life cycle of the project. A thousand managers in the US would attend this program in the four-year time period before another needs assessment was conducted. Program development was prorated over a three-year time period assuming that the delivery could change significantly in that time frame. The remainder of the costs is directly charged and includes the delivery expenses, the salaries for the participants (the first-level managers) as well as their managers (second-level). The learning and development overhead was allocated using a figure of $625 per day of training.

Table Appendix-7: Fully loaded costs

Program Cost Summary (36 Participants)	
Cost of Item	**Cost**
Needs Assessment (prorated over 4 years)	$ 900
Program Development (prorated over 3 years)	2,000
Program Materials ($120/participant)	4,320
Travel, Meals, and Lodging ($1,600/participant)	57,600
Facilitation and Coordination ($4,000/day)	32,000
Facilities and Refreshments ($890/day)	7,120
Participants Salaries (plus benefits) for time and program	37,218
Manager Salaries (plus benefits) for time involved in program	12,096
Training and Education Overhead (allocated)	2,500
ROI Evaluation	5,000
TOTAL	$160,754

Appendix: Case Application

Discussion Questions

1. Using a total benefit on both measures and the fully loaded cost of the program, calculate the benefit cost ratio and the return on investment.

2. Are the impact and ROI data credible? Explain.

3. What should be the strategy for communicating this data?

Part E

Analysis

The benefit cost ratio is calculated as follows:

$$BCR = \frac{\text{Program Benefits}}{\text{Program Costs}} = \frac{\$329{,}201}{\$160{,}754} = 2.05$$

The return on investment is calculated as follows:

$$ROI = \frac{\text{Program Benefits - Program Costs}}{\text{Program Costs}} = \frac{\$329{,}201 - \$160{,}754}{\$160{,}754} = 105\%$$

Appendix: Case Application

Credibility

The data were perceived to be very credible by both the L&D staff and senior management group. Credibility rests on eight major issues:

1. The information for the analysis is provided directly from the new managers. The managers have no reason to be biased in their input.

2. The data are anonymous since no one has had to provide their name. This helps remove the opportunity for potential bias.

3. The data collection process is conservative, with the assumption that an unresponsive individual has realized no improvement. This concept—no data, no improvement—is ultra conservative in the data collection.

4. The L&D staff did not assign complete credit to this program. The participants isolated a portion of the data that should be credited directly to this program.

5. The data were adjusted for the potential error of the estimate. Estimates are used to isolate the effects of the program on the individual data.

6. Only the first year of benefits are used in the analysis. Most of the improvement should result in second- and third-year benefits.

7. The costs of the program are fully loaded. All direct and indirect costs are included, including the time away from work for the participants and managers.

8. The data are a balanced profile of success. Very favorable reaction, learning, and application data were presented along with business impact, ROI, and intangibles.

Collectively, these issues made a convincing case for the program.

Appendix: Case Application

Communication Strategy

To communicate appropriately with the target audiences outlined in the ROI analysis plan, three specific documents were produced. The first report was a detailed impact study showing the approach, assumptions, methodology, and results using all six data categories. In addition, barriers and enablers were included in the study, along with conclusions and recommendations.

The second report was an eight-page executive summary of the key points, including a one-page overview of the methodology. The third report was a brief, five-page summary of the process and results. These documents were presented to the different groups according to this schedule:

Table Appendix-8: Communication strategy

Audience	Document
Participants	Brief summary
Managers of participants	Brief summary
Senior executives	Complete study, executive summary
L&D staff	Complete study
Learning & Development Council	Complete study, executive summary
Prospective participants	Brief summary

Because this was the first ROI study conducted in this organization, face-to-face meetings were conducted with the executives. The purpose was to ensure that executives understand the methodology, the conservative assumptions, and each level of data. The barriers, enablers, conclusions, and recommendations were an important part of the meeting. In the future, after two or three studies have been conducted, this group will receive only a one-page summary of key data items. A similar meeting was conducted with the learning and development council. The council members are advisors to the L&D department who are usually middle- and upper-level executives and managers. Finally, a face-to-face meeting was held with the learning and development staff where the complete impact study was described and used as a learning tool.

Appendix: Case Application

Southwest Healthcare System

Measuring the Business Impact of Supervisor Training in a Healthcare Environment

This case was prepared to serve as a basis for discussion rather than to illustrate either effective or ineffective administrative and management practices. All names, dates, and organizations have been disguised at the request of the author or organization.

Situation

Southwest Healthcare System (SHC) is a large healthcare organization with approximately 21,500 employees located across eight states in the southwest United States. They maintain hospitals, home-care programs, nursing facilities, managed care, and hospice programs.

After reviewing a quarterly payroll report, the senior management team uncovered that there was an upward trend developing (higher than industry and benchmarking averages) in overtime utilization of labor and support staff in the hospitals. They had also noticed a downward trend in employee satisfaction based on the most recent quarterly survey data. Turnover among these teams was also higher than expected. The executives at SHC contacted the organizational development team to begin analyzing the various issues that could be driving these downward trends. After conducting employee and manager surveys and reviewing current performance and planning reports, several needs were identified, especially among the nursing supervisors. The identified needs included reducing the observable and noted “friction” between work teams, supervisors lacking planning and performance management skills, excessive overtime utilization, and a lack of general supervisory skills on performance counseling/coaching.

After reviewing the data, the senior management team asked the learning and development function to experiment with a comprehensive supervisory skills program that would “teach them how to correct these problems and investigate new ways for process improvement,” with a special focus on shift-planning and overtime utilization. However, management wanted to make sure that this investment in training was going to do what it was supposed to. So, management suggested some sort of pilot program

be conducted for a small group of three of the nine hospitals, to monitor the results, and make recommendations. If the program was successful, then it should be implemented in the other hospitals.

The Solution

The program consisted of nine sessions. The sessions were ½ day to one day in duration. During each session, participants had an opportunity to practice the various skills, including meeting management, coaching, shift planning, and SHC performance management. They were observed by facilitators to check for successful understanding and correct completion of forms. Each participant was asked to complete various assignments back on the job prior to the next session. At the end of the ninth session, a facilitated discussion of problems, issues, barriers, and concerns about using the skills and tools took place. The program was internally designed and facilitated.

Discussion Questions

1. The senior management team is interested in which business measures?

2. Which methods could be used to collect data to measure for application and business impact improvement?

3. Which method could be utilized to isolate the effects of the program?

4. How could the business impact data be converted to monetary values?

Appendix: Case Application

Data Collection Plan

Level	Broad Program Objective(s)	Measures	Data Collection Method / Instruments	Data Sources	Timing	Responsibilities
1	***REACTION/ SATISFACTION and PLANNED ACTIONS*** • *Positive reaction* • *Recommended improvements* • *Action items*	• *Average rating of at least 4.2 on a 5.0 scale on quality, usefulness, and achievement* • *100% submission of planned actions*	• *Reaction questionnaire* • *Action plans*	• *Participants*	• *End of each session* • *End of final session*	• *Facilitator*
2	***LEARNING*** • *Acquisition of skills*	• *Through live role-play scenarios, demonstration of appropriate selection, and use of all 15 sales interaction skills and all six customer influence steps*	• *Skill practice* • *Observations*	• *Participants*	• *During program*	• *Facilitator*

Appendix: Case Application

Level	Broad Program Objective(s)	Measures	Data Collection Method / Instruments	Data Sources	Timing	Responsibilities
3	***APPLICATION/ IMPLEMENTATION*** • *Use of skills* • *Frequency of skill use* • *Identify barriers*	• *Implement effective coaching skills based on strategies that improve job satisfaction of work units* • *Reported increase for cross team collaboration* • *Reported frequency and effectiveness of skill application by supervisors and direct reports* • *Reported barriers to implementa-tion* • *85% submission of completed action plans*	• *Questionnaire* • *Follow-up session* • *Action plans*	• *Participants* • *Direct reports of supervisors*	• *3 months after program*	• *Training coordinator* • *Facilitator*

Appendix: Case Application

Level	Broad Program Objective(s)	Measures	Data Collection Method / Instruments	Data Sources	Timing	Responsibilities
4	***BUSINESS IMPACT*** • *Decrease overtime use* • *Reduce turnover* • *Improve employee satisfaction* • *Individual train process improvements*	• *Overtime will reduce by 11%* • *Will see reduction in turnover due to improved supervision* • *Increase employee SAT to reflect supervisor improvement* • *Various process improvements by individuals and teams. Measures to be determined.*	• *Performance monitoring* • *Questionnaire* • *Action plans*	• *Organization-al records* • *Exit interview date from HR* • *Participants*	• *3 months after program for over-time reduction* • *6 months for other data*	• *Training coordinator*
5	**ROI** Target ROI–30%	**Baseline Data:** Collected before training is implemented from hospital records for both the teams of the trained group and the control group. **Comments:** Get stakeholder buy-in to control group arrangement, and criteria to establish control group primary ROI data will come from overtime use reduction.				

Appendix: Case Application

ROI Analysis Plan Sample

Evaluation Purpose: *Determine return-on-investment and rollout success*
Program: *Supervisory skills pilot*_____ **Responsibility:**_____ **Date**:_____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communi-cation Targets for Final Report	Other Influences/ Issues During Application	Comments
Weekly overtime use	*Control group analysis using trend data*	*Direct conversation using profit contribution*	• *Prorated analysis fees* • *Prorated develop-ment costs* • *Facilita-tion fees* • *Program materials*	• *Customer satisfac-tion* • *Employee satisfac-tion*	• *Program partici-pants* • *Hospital directors* • *Store managers —target stores*	• *No communi-cation with control group* • *Additional develop-ment activities for the two groups should be avoided*	• *Must have job coverage during training*
Decrease turnover	*Trend data with exit interviews*						

Appendix: Case Application

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communi-cation Targets for Final Report	Other Influences/ Issues During Application	Comments
Employee satisfaction	*Participant estimates*		• *Meals/ refresh-ments* • *Facilities* • *Partici-pant-employee salaries/ benefits* • *Cost of coordina-tion/eva-luation*		• *Senior executives* • *OD team* • *Training staff, instructors, coordin-ators, designers, and managers*		
Individual/team process improvements	*Participant and manager estimates*						

Appendix: Case Application

Supervisory Skills — Pilot Program Data Results

Level 1 Results

Level 1 (reaction and planned action) data was captured through post-program questionnaire that assessed course content, relevance, likelihood of use, exercises, instructor, and overall satisfaction with the course. Participants rated questions on a Likert type scale from 1–7. Participant average for the overall course rating was 6.8. Participant average for the exercises was 6.3, which suggests some areas for improvement prior to rollout. Level 1 data is summarized here.

Level 1 Data:

Key Measures	
Success With Objectives	6.5
Relevance of Material	6.7
Likelihood of Using Skills	6.8
Exercises and Skill Practices	6.3
Overall Instructor Rating	6.9
Overall Course Rating	6.8

Note: The level one ratings were on a Likert scale from 1-7.

Level 2 Results

Level 2 (learning) data was captured using skill practices and observation during each session and in completion of work assignments between sessions. All participants demonstrated successful acquisition of skills.

Level 3 Results

Level 3 (application of skills) was captured using performance monitoring, questionnaires, and action plans. The results are listed here:

Appendix: Case Application

- 94% of supervisors completed action plans.
- Utilization of Performance Management Process increased to 85% from 63%.
- All supervisors facilitated performance improvement meetings with employees.
- On a survey of employees reporting to the participants, significant behavior change of effective performance feedback was noted. 4.1 (3.2 previously) out of 5 scale.
- 73% of participants report that all action items were completed.

Questions for Discussion

1. How is this L-1, L-2, and L-3 data of value?

2. Who would benefit from this L-1, L-2, and L-3 data?

Supervisory Skills — Pilot Program Data Results (Cont.)

Level 4 Data Pre-Program Indicators

- Average shift overtime costs prior to the program was 31 hours per week @ $33.00 per hour. To determine baseline overtime data for the L&D teams was calculated using 31 hours X $33.00 per/hr X 14 teams = $14,322 per week or $744,744 annually. Fourteen teams are involved.
- Overall Employee Satisfaction scores averaged 71%.
- Turnover averaged 23% for reasons of lack of performance development and ineffective supervision.

Appendix: Case Application

Level 4 Post-Program Results (3 months after and 6 months after for turnover data)

- Overtime averages for the trained group = 13 hours per week (a reduction of an average of 18 hours per week). The control group averaged 27 hours of overtime weekly per team post-implementation.
- Overall Employee satisfaction averaged 84%.
- Employees reported process improvements based on improved teamwork that saved the hospital $40,000 per year (time savings, supplies, and waste costs).
- Managers also reported process improvements but were not sure of actual dollar contributions.
- Turnover, which occurred due to the reasons stated above, actually reduced by 4% during the evaluation period. The Human Resources department indicates that could be at least $126,500 in savings for the organization in reduced recruiting and training costs alone.

Program Cost Summary

Table Appendix-9: Program cost summary

COST CATEGORY	TOTAL COSTS
Needs Assessment	$16,500
Program Development (time)	4,800
Program Materials (54 x $95)	5,130
Participant Salaries/Benefits Based on approximately 6.5 full days (54 x $227 x 6.5)	79,677
Facilitation, Coordination, T&E Overhead	10,800
Evaluation Costs	12,320
Total Costs	$129,227

Appendix: Case Application

Level 5 Data

Use this page to calculate the total benefits you will use for your ROI calculation. Total benefits should be calculated from L-4 post-program improvements on the previous page. Determine the total benefits for the supervisory skills program and calculate the BCR and ROI on the worksheet here.

Supervisory Skills Program Total Benefits	=	_____
Supervisory Skills Program Total Costs	=	_____
BCR	=	_____
ROI (%)	=	_____

Appendix: Case Application

Case Application: Retail Merchandise Company

A Case on Measuring Return-on-Investment on Interactive Selling Skills Training

This case was prepared to serve as a basis for discussion rather than to illustrate either effective or ineffective administrative and management practices.

Source: *Value for Money: Measuring the Return on Investment on Non-Capital Investments,* Volume 1. Patricia Pulliam Phillips, PhD, and Jack J. Phillips, PhD. Business Writers Exchange Press, 2018.

Situation

Retail Merchandise Company (RMC) is a large national chain of 420 stores, located in most major US markets. RMC sells small household items, gifts of all types, electronics, and jewelry as well as personal accessories. It does not sell clothes or major appliances. The executives at RMC have been concerned about the slow sales growth and have been experimenting with several programs to boost sales. One of the concerns focused on the interaction with customers. Sales associates were not actively involved in the sales process, usually waiting for a customer to make a purchasing decision, and then proceeding with processing the sale. Several store managers have analyzed the situation to determine if more communication with the customer would boost sales. The analysis revealed that the use of very simple techniques to probe and guide the customer to a purchase should boost sales in each store.

The senior executives asked the learning and development function to experiment with a very simple customer interactive skills program for a small group of sales associates. A program produced by an external supplier would be preferred to avoid the cost of development, particularly if the program is not effective. The specific charge from the management team was to implement the program in three stores, monitor the results, and make recommendations.

Appendix: Case Application

If the program increased sales and presented a significant payoff for RMC—then it should be implemented in other stores. The sales associates are typical of the retail store employee profile. They are usually not college graduates, and most have a few months of retail store experience. Turnover was usually quite high, and formal training has not been a major part of previous sales development efforts.

Solution

The learning and development staff conducted very brief initial needs assessment and identified five simple skills that would need to be covered in the program. From their analysis, it appeared that the sales associates did not have these skills or were very uncomfortable with the use of these skills. A program called “Interactive Selling Skills” was selected—a program with significant use of skill practices. The program had two days of training, where participants had an opportunity to practice each of the skills with a fellow classmate, followed by three weeks of application on the job. Then, a final day of training was conducted that included a discussion of problems, issues, barriers, and concerns about using the skills. Additional practice and fine-tuning of skills were a part of that final one-day session. The program, an existing product from an external supplier, would be tried in the electronics area of three stores, and 16 people would be trained in each store. The program was taught by the staff of the supplier for a predetermined facilitation fee.

Appendix: Case Application

Data Collection Plan

Program: *Interactive selling skills* **Responsibility:** _____ **Date:** _____

Level	Broad Program Objective(s)	Measures	Data Collection Method/ Instruments	Data Sources	Timing	Responsibilities
1	**REACTION/ SATISFACTION and PLANNED ACTIONS** Positive reaction Recommended improvements Action items	Average rating of at least 4.2 on a 5.0 scale on quality, usefulness, and achievement 100% submission of planned actions	Reaction questionnaire	Participants	End of 2nd day End of 3rd day	Facilitator
2	**LEARNING** Acquisition of skills Selection of skills	Through live role-play scenarios, demonstration of appropriate selection, and use of all 15 sales interaction skills and all six customer influence steps	Skill practice	Participants	During program	Facilitator

Appendix: Case Application

Level	Broad Program Objective(s)	Measures	Data Collection Method/ Instruments	Data Sources	Timing	Responsibilities
3	**APPLICATION/ IMPLEMENTATION** Use of skills Frequency of skill use Identify barriers	Reported frequency and effectiveness of skill application Reported barriers to customer interaction and closing of sales	Questionnaire Follow-up session	Participants	3 months after program 3 weeks after the first two days	Training coordinator Facilitator
4	**BUSINESS IMPACT** Sales increase	Weekly sales	Performance monitoring	Store records	3 months after program	Training coordinator
5	**ROI** Target ROI is greater than 50%	**Baseline Data:** *Will be collected before training is implemented from store records for both the trained group and the control group.* **Comments:** *Get stakeholder buy-in to control group arrangement and criteria to establish control group.*				

Appendix: Case Application

ROI Analysis Plan

Program: *Interactive selling skills* **Responsibility:** _____ **Date:** _____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments
Weekly sales per employee	Control group analysis	Direct conversation using profit contribution	Facilitation fees Program materials Meals/ refreshments Facilities Participant salaries/ benefits Cost of coordination/ evaluation	Customer satisfaction Employee satisfaction	Program participants Electronics department managers—target stores Store managers—target stores Senior store executive district region, headquarters	No communication with control group Seasonal questionnaire should be avoided	Must have job coverage during training

Appendix: Case Application

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments
					Training staff, instructors, coordinators, designers, and managers		

Appendix: Case Application

Program Profile

- Title: Interactive Selling Skills
- Target Group: Sales Associates in Electronics
- Vendor Produced and Delivered
- Three Days (Two days plus one day)
- Significant Use of Skill Practices
- Three Groups Trained (48 participants from three stores)

ROI Analysis Profile

Post-Program Data Collection

- Level 4—Performance monitoring 3 months
- Level 3—Questionnaire 3 months
- Level 3—Program follow-up session 3 weeks (last session)

Isolating the Effects of Training

- Control group arrangement
- Participant's estimate (for backup)

Converting Data to Monetary Value

- Profit contribution of increased output

Control Group Selection Criteria

- Store size
- Store location
- Customer traffic levels
- Previous store performance

Appendix: Case Application

Data Collected During Training

Level 1—Selected Data

- Success with objectives 4.3
- Relevance of material 4.4
- Usefulness of program 4.5
- Exercises/skill practices 3.9
- Overall instructor rating 4.1

Level 2—Selected Data

- All participants demonstrated that they could use the skills successfully.

Level 3—Selected Data

Table Appendix-10: Two Questions Out of 20

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I utilize the skills taught in the program.	78%	22%	0%	0%	0%

	With Each Customer	Every 3rd Customer	Several Times Each Day	At Least Once Daily	At Least Once
Weekly frequency of use of the skills	52%	26%	18%	4%	0%

Appendix: Case Application

Level 4 Data—Average Weekly Sales

Table Appendix-11: Average weekly sales

Weeks After Training	Trained Groups	Control Groups
1	$9,723	$9,698
2	9,978	9,720
3	10,424	9,812
13	$13,690	$11,572
12	11,491	9,683
15	11,044	10,092
Average for Weeks 13, 14, 15	$12,075	$10,449

Annualized Program Benefits

46 Participants Were Still in Job After Three Months

Average weekly sales per employee—Trained Groups	$12,075
Average weekly sales per employee—Untrained Groups	$10,449
Increase	$1,626
Profit contribution (2% of store sales)	$32.50
Total weekly improvement (x 46)	$1,495
Total annual benefits (x 48 weeks)	**$71,760**

Cost Summary

For 48 participants in 3 courses

Facilitation Fees: Three courses x $3750	$11,250
Program Materials: 48 x $35/participant	$1,680

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Meals/Refreshments: Three days x $28/participant	$4,032
Facilities: Nine days x $120	$1,080
Participant Salaries Plus Benefits (35% factor)	$12,442
Coordination/Evaluation	$2,500
Total Costs	**$32,984**

Level 5 Data

BCR = _____ = _____

ROI (%) = _____ X 100 = _____

Appendix: Case Application

ROI Quiz

True or False? Please choose the answer you feel is most correct.

	T	F
1. The ROI Methodology collects or generates just one data item, expressed as a percentage.	❍	❍
2. A program with monetary benefits of $200,000 and costs of $100,000 translates into a 200% ROI.	❍	❍
3. The ROI Methodology is a tool to strengthen and improve programs, projects, and processes.	❍	❍
4. After reviewing a detailed ROI impact study, senior executives will usually require ROI studies on all programs.	❍	❍
5. ROI studies should be conducted very selectively, usually involving 5-10% of programs.	❍	❍
6. While it may be a rough estimate, it is always possible to isolate the effects of a program on impact data.	❍	❍
7. A program costing $100 per participant, designed to teach basic skills to 100 participants, is an ideal program for an ROI study.	❍	❍
8. Data can always be converted to monetary value, credibly.	❍	❍
9. The ROI Methodology contains too many complicated formulas.	❍	❍
10. The ROI Methodology can be implemented for about 3-5% of my functional budget.	❍	❍
11. ROI is not future-oriented; it only reflects past performance.	❍	❍
12. ROI is not possible for soft skills programs.	❍	❍
13. A negative ROI will kill my program.	❍	❍
14. The best time to consider an ROI evaluation is three months after the program is completed.	❍	❍
15. In the early stages of implementation, the ROI Methodology is a process improvement tool and not a performance evaluation tool for the project team.	❍	❍
16. If senior executives are not asking for ROI, there is no need to pursue the ROI Methodology.	❍	❍

Appendix: Case Application

So, how did you do?

Now that the answers to the quiz have been explained, see how you fared. Tally your scores. Based on the interpretations below, what is your ROI acumen?

No. of Correct Responses	Interpretation
14-16	You could be an ROI consultant.
10-13	You could be a speaker at the next ROI Conference.
7-9	You need a copy of a thick ROI book.
4-6	You need to attend a two-day ROI workshop.
1-3	You need to attend ROI certification.

About ROI Institute, Inc.®

ROI Institute, Inc., founded in 1992 as a service-driven organization, assists professionals in improving programs and processes using the ROI Methodology® developed by Dr. Jack J. Phillips and Dr. Patti P. Phillips. This Methodology is the global leader in measurement and evaluation including the use of return on investment (ROI) in non-traditional applications. ROI Institute regularly offers workshops, provides consulting services, publishes books and case studies, and conducts research on the use of measurement and ROI. This makes ROI Institute the leading source of content, tools, and services in measurement, evaluation, and analytics. Working with more than 100 ROI consultants and 45 partners, ROI Institute applies the ROI Methodology in 20 professional fields in more than 70 countries. ROI Institute authors have written or edited over 100 books, translated into 38 languages. Organizations build internal capability with the help of ROI Institute and its ROI Certification process. By successfully completing this process, individuals are awarded the Certified ROI Professional® (CRP) designation, which is respected by executives in organizations worldwide.

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