ROI INSTITUTE®

Measuring the Impact and ROI of HR Projects and Programs

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Dr. Jack J. Phillips is chairman of ROI Institute, Inc. and is a world-renowned expert on analytics, measurement, and evaluation. The author or editor of more than 100 books, he conducts workshops and presents at conferences all over the world. Former HR director, Phillips has served on the boards of several private businesses, nonprofits, and associations. His work has been featured in the Wall Street Journal, Bloomberg BusinessWeek, Fortune magazine, and on CNN.

ROI INSTITUTE®

Module 1:
Introduction & Readiness to Learn

Workshop Objectives

Reaction Objectives

After participating in this workshop, you should:
- Perceive it to be relevant to your work.
- Find it important to your success on the job.
- Immediately apply it in your work.
- Find the content to be new information.

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.
- 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.
- 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.

Impact Objectives

Six months after completing this workshop, you should:
- Improve the effectiveness of programs.
- Improve satisfaction of your stakeholders.
- Improve relationships with key managers and clients.

Apex, Inc.

John Hamilton, Senior Vice-President of Human Resources at Apex Inc., a large business products firm, was perplexed and a little confused after attending a meeting with the Chief Executive Officer, Rob Peterson. The CEO had asked John to develop a plan to show the senior executive team "the contributions of the human resource function" and "the value of the company's human capital." Although the CEO fully supports the majority of HR programs and services, he questioned the value of a few HR initiatives and was concerned about comments from the senior team. As Peterson said, "Many of our senior executives are questioning the actual value of the human resource function and suggesting it could be out-sourced or parts of it eliminated. What they need to see is a more direct link between these programs and the bottom line." In addition, Peterson asked about the total amount of the company's "investment in human capital," with a follow-up question, "Is it too much or too little?"

As John reflected over the meeting, he was aware of the excellent HR programs that have been created. Some have even won awards from professional associations. He knew that the senior team places value on employee feedback, taken annually, which provides an assessment of job satisfaction, motivation, and commitment from the employees. This process has provided valuable information to help plan HR initiatives. John is also concerned that Peterson had mentioned return on investment in his conversation. John was aware of the ROI concept but has not seen it applied to the human resource function and wondered if it was even feasible.

These concerns left John confused as he began to tackle the assignment. He must present his recommended plan for showing the value of human capital and the contribution of the human resource function to the senior management team at the next senior staff meeting. He knew he must have specific approaches to show the team to get their buy-in. Otherwise, he would have a tough challenge ahead as he entered the budgeting cycle.

Questions for discussion:

1. What range of possibilities exists for John?

2. What specific types of measures would you suggest for an overall measurement scheme?

3. How can John win the support from the senior team?

Comparison of Approaches to Measure the HR Contribution

Approach	Measurement Focus	Relative Cost	Relative Value of Information
Feedback surveys	Attitudes/Perceptions	Moderate	Moderate
HR satisfaction surveys	Attitudes/Perceptions	Moderate	Moderate
Human capital measures	Value of skills, capabilities, performance of employees	High	Moderate
HR Auditing	Efficiency/ Existence of practices	Low	Low
HR case studies	Qualitative description with data	Low	Low
HR cost monitoring	Program/Function/Activity costs	Low	Low
Competitive HR benchmarking	Performance measures/ practices	High	High
Key HR indicators	Program/Function performance measures	Moderate	Moderate
HR macro studies	Multiple key indicators – overall function	High	High
HR management by objectives	Goal setting for HR performance measures	Low	Moderate
HR profit centers	Profit contribution of programs /services	High	High
ROI methodology	Benefits vs. Costs	High	High
Balanced scorecard	Balanced measures – customer, financial, process	Moderate	Moderate

Questions for discussion:

1. Which approaches are you using now?

   _____

   _____

2. Which approaches are you planning to use in the future?

   _____

   _____

3. Which approaches are you planning to discontinue?

   _____

   _____

Defining Benefit-Cost Ratio and Return on Investment

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

$$\text{ROI} = \frac{\text{Net Program Benefits}}{\text{Program Costs}} \times 100$$

ROI Calculation Example

Program Benefits from Participants (1st year) = $230,000
Costs per Program (25 participants) = $88,000

$$\text{BCR} = \frac{\$230,000}{\$88,000} = 2.61$$

$$\text{ROI} = \frac{\$230,000 - \$88,000}{\$88,000} = 1.61 \times 100 = 161\%$$

ROI Target—Options

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

What value would be appropriate? What is an acceptable ROI in your organization? _____%

Module 2:
Overview of the
ROI Process

Module 2: ROI Process Overview

Notes:

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Levels of Evaluation for Performance Solutions

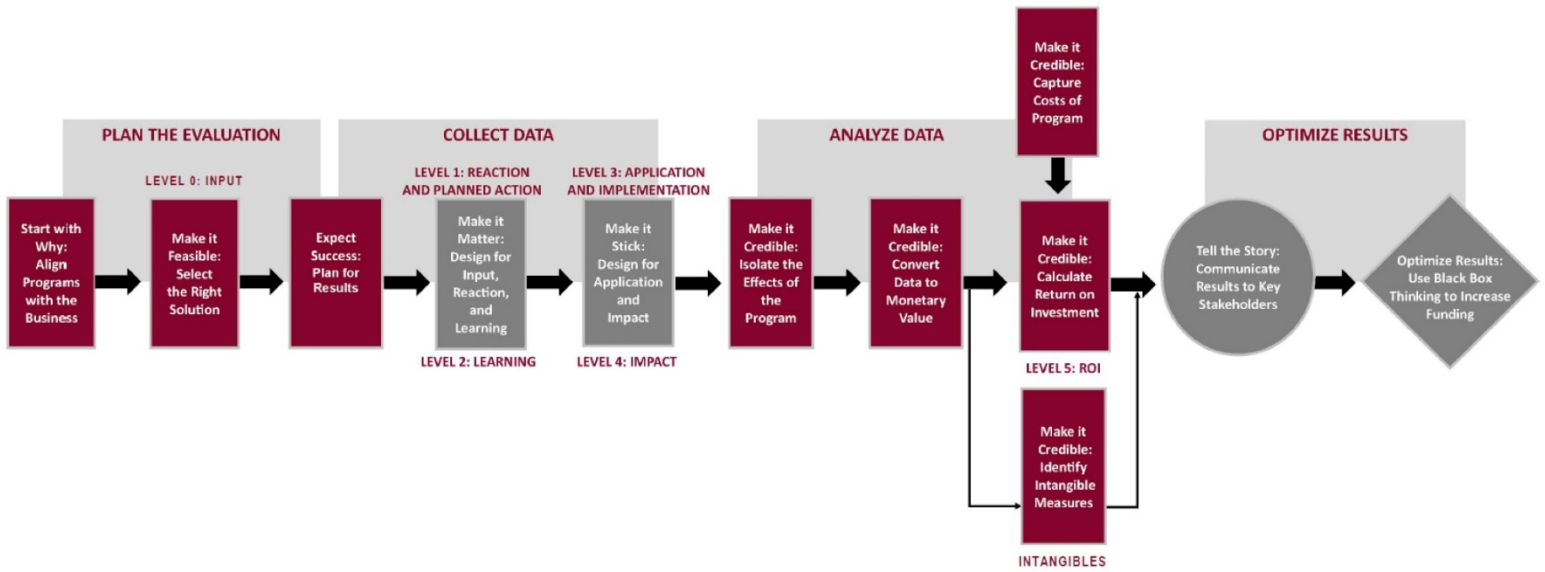When looking for evidence of accountability in solutions, the question of what to evaluate is crucial to an organization's evaluation strategy. Probably the most well-known framework for classifying evaluation is to use different levels to determine the type of data to be collected:

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 and Planned Action**	The first level of outcome data, Level 1, reaction and planned action 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.
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: **Business Impact**	On-the-job changes may not always produce impact. Business impact is the consequence of application and should be measured. A program or project is usually initiated because one or more business measures needs to improve. A Level 4 evaluation determines the business 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.

Measurement in Learning and Performance Improvement

Level	Measurement Category	Current Status Coverage Now (%)	Best Practice Coverage Goal (%)	Comments About Status
0	**Inputs/Indicators** Measures inputs into HR initiatives including the number of programs, attendees, audience, costs, and efficiencies.		100%	
1	**Reaction and Perceived Value** Measures reaction to, and satisfaction with, the experience, ambiance, contents, and value of program.		100%	
2	**Learning** Measures what participants learned in the program – information, knowledge, skills, and contacts (takes away from the program)		80 – 90%	
3	**Application and Implementation** Measures progress after the program–the use of information, knowledge, skills, and contacts.		30%	
4	**Impact and Consequences** Measures changes in business impact—variables such as output, quality, time, and cost linked to the program.		10%	
5	**ROI** Compares the monetary benefits of the business impact measures to the costs of the program.		5%	

Criteria for Selecting Programs for Level 4 and Level 5 Evaluations

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

What percent of your programs meet these criteria?   _____%

_____

_____

_____

_____

What Can You Do with the ROI Process?

Payoff of the ROI Methodology

- Align programs to business needs.
- Show contributions of selected programs.
- Earn respect of senior management/administrators.
- Build staff morale.
- Justify/defend budgets.
- 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."

When you get follow-up data from the ROI Process, in what ways can it be useful? To you? To your organization?

_____

_____

_____

_____

Module 3:
Evaluation Planning

Module 3: Evaluation Planning Overview
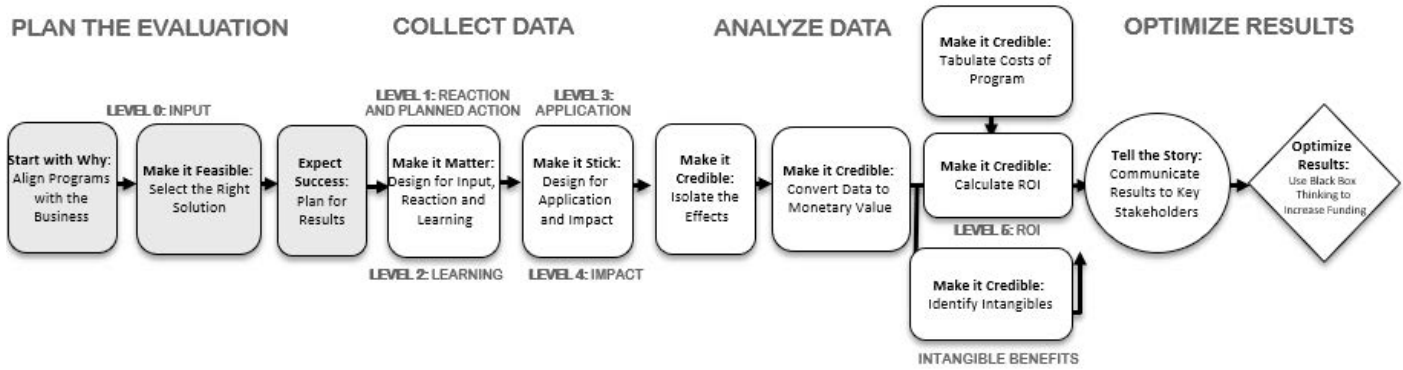
Notes:

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Overview of Hard Data

OUTPUT

Completion Rate
Units Produced
Tons Manufactured
Items Assembled Money
Collected Items Sold
New Accounts Generated
Forms Processed Loans
Approved Inventory
Turnover Patients
Visited Applications
Processed Students
Graduated Tasks
Completed Output Per
Hour Productivity
Work Backlog
Incentive Bonus
Shipments

COSTS

Shelter Costs
Treatment Costs
Budget Variances
Unit Costs
Cost By Account
Variable Costs
Fixed Costs
Overhead Cost
Operating Costs
Project Cost Savings
Accident Costs
Program Costs
Sales Expense
Participant Costs

TIME

Cycle Time
Equipment Downtime
Overtime
On-Time Shipments
Time to Project Completion
Processing Time
Supervisory Time
Time to Proficiency
Learning Time
Meeting Schedules
Repair Time Efficiency
Work Stoppages
Order Response
Late Reporting
Lost Time Days

QUALITY

Failure Rates
Dropout Rates
Scrap
Waste
Rejects
Error Rates
Rework
Shortages
Product Defects
Deviation From Standard
Product Failures
Inventory Adjustments
Time Card Corrections
Incidents
Compliance Discrepancies
Agency Fines

Overview of Soft Data

Examples of Soft Data

WORK HABITS

Tardiness
Visits to the Dispensary
Violations of Safety Rules
Communication Breakdowns
Excessive Breaks

WORK CLIMATE/SATISFACTION

Grievances
Discrimination
Charges Employee
Complaints Job
Satisfaction
Organization
Commitment Employee
Engagement Employee
Loyalty
Intent to Leave
Stress

INITIATIVE/INNOVATION

Creativity
Innovation
New Ideas
Suggestions
New Products and Services
Trademarks
Copyrights and Patents
Process Improvements
Partnerships
Alliances

CUSTOMER SERVICE

Customer Complaints
Customer Satisfaction
Customer Dissatisfaction
Customer Impressions
Customer Loyalty
Customer Retention
Customer Value
Lost Customers

EMPLOYEE DEVELOPMENT/ ADVANCEMENT

Promotions Capability
Intellectual Capital
Programs Completed
Requests for Transfer
Performance
Appraisal Ratings Readiness
Networking

IMAGE

Brand Awareness
Reputation
Leadership
Social Responsibility
Environmental Friendliness
Social Consciousness
Diversity
External Awards

Selecting the Right Solution

1. Examine the data and records.

2. Initiate the discussion.

3. Reference a case study.

4. Use benchmarking from similar solutions.

5. Use evaluation as the hook.

6. Involve others in the discussion.

7. Discuss disasters in other places.

The Alignment Process

Payoff Needs	5 ——————————→	**ROI Objective**	——————————→ 5	**ROI**
Business Needs	4 ————————→	**Impact Objectives**	————————→ 4	**Impact**
Performance Needs	3 —————→	**Application Objectives**	—————→ 3	**Application**
Learning Needs	2 ————→	**Learning Objectives**	————→ 2	**Learning**
Preference Needs	1 ——→	**Reaction Objectives**	——→ 1	**Reaction**

Initial Analysis

Measurement and Evaluation

Business Alignment and Forecasting   **Program**   **The ROI Process Model**

3-5

The Alignment Process

Payoff Needs   5 ———————→ **ROI Objective** ———————————→ 5   **ROI**

Worker absenteeism is impeding   ROI 25%   Calculate ROI
productivity; cost of temporary staff is
enormous. Managers estimate the cost
of absenteeism is about $10,000 per
month.

Business Needs   4 ———————→ **Impact Objectives** ——————→ 4   **Impact**

Unplanned absenteeism is 9% and increasing;   Reduce unplanned absence to 5% six months
greater than benchmark of 5%.   after the program.   Measure unplanned absence six months
                                                                                                         after the program (performance records)
                                                                                                         Isolate the effects of program using
                                                                                                         manager and employee estimates.

Performance Needs   3 ———————→ **Application Objectives** ——→ 3   **Application**

Analysis shows that supervisors and senior staff   Within six months of program, employees and supervisors report that   Follow up with managers in three months
become irritated with employees for making   coaching sessions occur in at least 95% of the situations when   (interviews)
mistakes rather than help them improve their   performance issues arise. Employee development plans are   Follow up with employees in three months
performance.   developed for each employee. When employees feel they are   (focus groups)
                                                    mistreated, they follow the guidelines and employ the techniques
                                                    described in the workshop.

Learning Needs   2 ———→ **Learning Objectives** ———→ 2   **Learning**

Supervisors and senior staff need to learn how to set clear   Program participants demonstrate ability to set expectations and
expectations and objectives, coach and motivate for maximum   objectives, coach and motivate for maximum performance, and   Skill practice and exercises
performance, and document performance problems.   document performance problems. They acknowledge   during program.
Employees need to know what they can expect from their   awareness of proper procedures for reporting performance   Assessments and polling
supervisors and their options if they believe to be mistreated in   issues.   during online modules.
the workplace.

Preference Needs   1 —→ **Reaction Objectives** —→ 1   **Reaction**

Program needs to provide relevant, practical information and   Participants indicates positive reaction as
tools. Participants do not need to be off the production floor   measured by ratings of 4.5/5 on relevance,   End-of-program questionnaire. Five
longer than two days. Solution is a Civil Treatment Workshop.   importance, and intent to apply what they   key questions after each online
Supervisors and employees will participate in separate   learned.   module using embedded survey.
workshops to ensure issues specific to their roles are addressed
in detail.

**Design, and
Execute
Program**

3-6

Selling Skills
V Model

Evaluation

| Start Here | Objectives | End Here |

Payoff Needs
Sales growth is sluggish, less than competitors

5 → **ROI Objective**
Attain an ROI of over 25% → 5 **ROI**
Calculating ROI examining benefits vs. costs

Specific Business Needs
A need to improve growth in all product lines. Current growth is only 2%; 10% should be achievable. Also, new account's acquisition is very low, averaging only slightly over 1 per sales rep per month. Five accounts should be easily achievable.

4 → **Impact Objective**
Increase sales growth rate of total sales from 2% to 10%
Increase the number of new accounts from 1 per person to 5 per person → 4 **Impact**
Monitoring the records of the system

Performance Needs
Sales team appears to be not very aggressive, in particular:
- Providing inadequate follow-up
- Not focusing on cross-selling possibilities
- Not building the proper relationships
- Not prospecting for new clients
- Not negotiating to close

3 → **Application Objectives**
After completing this program, participants should be:
- Providing adequate follow-up
- Focusing on cross-selling possibilities
- Building the proper relationships
- Prospecting for new clients
- Negotiating to close

→ 3 **Application**
Self-assessment questionnaire on the use of new skills with confirmation from sales manager

Learning Needs
Participants will need to enhance competencies on strategic selling, closing deals, assembling a broader perspective, seeking new clients, providing excellent customer service

2 → **Learning Objectives**
After participating in this program, participants should be able to use each competency at an acceptable level of performance → 2 **Learning**
Skill practice observations and self-assessments

Initial Analysis

Preference Needs
Participants need to see this as valuable and necessary at this time, and immediately applicable in their work situations.

1 → **Reaction Objectives**
Participants will perceive this program to be:
- Valuable
- **Necessary**
- Immediately Applicable

→ 1

Measurement and Evaluation

Reaction
Feedback questionnaire at the end of the program

Business Alignment and Forecasting

| Project |

The ROI Process Model

Recruiting Strategies
V Model

Needs ——— Evaluation

| Start Here | Objectives | End Here |

Payoff Needs

Recruiting is taking too long, and the quality of candidates is less than desired.

5 → **ROI Objective**
25%

5 **ROI**
ROI would be calculated using cost versus benefit.

Specific Business Needs

The time to start (time from the requisition approval to on-the-job is 50 days and growing. The time to performance of employees in the first nine months is at a rating of 3.2 on a five-point scale. A four should easily be obtained.

4 → **Impact Objective**
Reduce the time to start from 50 days to 30 days, and quality rating would improve from 3.2 to 4 in six months.

4 **Impact**
Records will be examined for time-to-start data and quality data.

Performance Needs

Current recruiting sources are sluggish and are not producing quality candidates. The current selection system in cumbersome and takes too much time, particularly with executive interviews.

3 → **Application Objectives**
- To implement a news selection system to eliminate executive interviews
- Drop the two inefficient recruiting sources and focus on website recruiting, which is more efficient.

3 **Application**
A self-assessment questionnaire for participants on their use of the new system and source.

Learning Needs

With a new system in place, the stakeholders must understand how to use a new selection system and a new recruiting source.

2 → **Learning Objectives**
Participants must be award of the new system and the new procedures on the sourcing

2 **Learning**
A quick check of roles and responsibilities.

Preference Needs

Participants must see this as a necessary change that will be very useful and valuable.

1 → **Reaction Objectives**
Participants must see this as useful, necessary, and valuable.

1 **Reaction**
Feedback questionnaire at the end of the meeting to launch the new process.

Initial Analysis

Measurement and Evaluation

Business Alignment and Forecasting

| Project |

The ROI Process Model

Project Management
V Model

Needs ———————————————————————————————— Evaluation

| Start Here | Objectives | End Here |

Payoff Needs
It is taking too long to complete the projects, creating delays, bottlenecks and problems.

5 → **ROI Objective**
20%
→ 5

ROI
ROI is calculated with cost versus benefit.

Specific Business Needs
The time to complete projects has excessive, averaging then days and increasing. The penalties for delay have increase to an average of $1(per project.

4 → **Impact Objective**
Reduce the time to complete projects by at least 50% in six months. Reduce the penalties for delayed projects by at least 50% in six months.
→ 4

Impact
Excessive time project records are monitored, and project penalties are monitored.

Performance Needs
Project team members are not using the designated project management software tool (Microsoft Project).

3 → **Application Objectives**
Project team members will be using Microsoft Project on every project within two weeks of the program.
→ 3

Application
Self-assessment questionnaire and input from centralized software system.

Learning Needs
Project team members have inadequate skills on the use of Microsoft Project software.

2 → **Learning Objectives**
Participants will demonstrate use of 75% of the critical routines in a classroom setting.
→ 2

Learning
Software demonstrations observed by the facilitator.

Initial Analysis

Preference Needs
Project team members must see this program as necessary, relevant to their needs, and important to the success of their projects.

1 → **Reaction Objectives**
Participants would rate this as:
- Four out of five in relevance to current needs
- Necessary for success,
- Important to the success of the project.
→ 1

Reaction
Feedback at the end of the session using a standard questionnaire.

Measurement and Evaluation

Business Alignment and Forecasting | Project | **The ROI Process Model**

Developing Objectives for Each Level

Levels 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 as a consequence 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

Question for Discussion
1. Do you develop objectives at multiple levels? Explain.

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.

Matching Exercise: Evaluation Levels with Objectives

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

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

Objective	Evaluation Level
After completing this program or project, participants should:	
1. Improve work group productivity by 20%	____
2. Initiate at least three cost reduction projects in 15 days.	____
3. Achieve an average cost reduction of $20,000 per project.	____
4. Increase the use of counseling discussion skills in 90% of situations where work habits are unacceptable.	____
5. Achieve a 21% ROI one year after the new gain-sharing program is implemented.	____
6. Be able to identify the five elements of the employee assistance program.	____
7. Increase the external customer satisfaction index by 25% in 3 months.	____
8. Address customer complaints with the 5 step process in 95% of complaint situations.	____
9. Perceive the absenteeism control policy to be fair.	____
10. Achieve a leadership simulation score average of 75 out of a possible 100.	____
11. Conduct a performance review meeting with direct reports to establish performance improvement goals.	____
12. Provide a 4 out of 5 rating on appropriateness of new ethics policy.	____

Notes:

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Data Collection Plan

Program:_____ **Responsibility:**_____**Date**:_____

Level	Broad Program Objective(s)	Measures	Data Collection Method/Instruments	Data Sources	Timing	Responsibilities
1	**REACTION/SATISFACTION and PLANNED ACTIONS**					
2	**LEARNING**					
3	**APPLICATION/ IMPLEMENTATION**					
4	**BUSINESS IMPACT**					
5	**ROI**	Baseline Data:_____ Comments:_____				

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	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments

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 calculations.

5. At least one method must be used to isolate the effects of the solution.

6. If no improvement data are available for a user/participant, it is assumed that little or no improvement has occurred.

7. Estimates of improvements should be adjusted for the potential error of the estimate.

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

9. Only the first year of benefits (annual) should be used in the ROI analysis of short-term solutions.

10. Costs of a solution, project, or program should be fully loaded for ROI analysis.

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

12. The results from the ROI Methodology must be communicated to all stakeholders.

Module 4:
Data Collection

Module 4: Data Collection Overview

PLAN THE EVALUATION

LEVEL 0: INPUT

Start with Why: Align Programs with the Business → **Make it Feasible:** Select the Right Solution → **Expect Success:** Plan for Results

COLLECT DATA

LEVEL 1: REACTION AND PLANNED ACTION

LEVEL 3: APPLICATION

Make it Matter: Design for Input, Reaction and Learning → **Make it Stick:** Design for Application and Impact

LEVEL 2: LEARNING

LEVEL 4: IMPACT

ANALYZE DATA

Make it Credible: Isolate the Effects → **Make it Credible:** Convert Data to Monetary Value

Make it Credible: Tabulate Costs of Program

Make it Credible: Calculate ROI

LEVEL 5: ROI

Make it Credible: Identify Intangibles

INTANGIBLE BENEFITS

OPTIMIZE RESULTS

Tell the Story: Communicate Results to Key Stakeholders → **Optimize Results:** Use Black Box Thinking to Increase Funding

Notes:

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Matching Exercise: Applications of Data Collection Instruments

For each of the following 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

Instrument **Level**

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

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 actually utilizing the newly acquired skills. ☐ ☐

2. Intact team members are involved 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 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 of success. ☐ ☐

5. A company has implemented a new compensation plan in which the employees share in the overall profits of the company. Employees have attended a roll-out meeting where they have the opportunity to learn 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. ☐ ☐

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 each individual since the program was conducted. ☐ ☐

7. Supervisors attended a problem-solving 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

	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	
Program assignments	X	X
Action planning	X	X
Performance contracting	X	X
Program follow-up session	X	X
Performance records		X

What methods will work best in your organization?

Notes:

_____

_____

_____

_____

_____

_____

_____

Follow-Up Questionnaire Content Issues 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

9. Monetary Impact   **Level 4-5**

10. Improvement Linked with Program

11. Confidence

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

Chain of Impact Questions

Option 1, When You Do Not Have a Clue

1. How did you use the material from this project or program?
2. What influence did it have in your work? Team?
3. What specific measure was influenced? Define it.
4. What is the unit value of the measure? (Profit or Cost)
5. What is the basis of this value?
6. How much did the measure change since the project was implemented?
7. What is the frequency of the measure? Daily, weekly, monthly, etc.
8. What is the total annual value of the improvement?
9. List the other factors that could have caused this total improvement?
10. What percent of the total improvement can be attributed to this project?
11. What is your confidence estimate, expressed as a percent, for the above data?
    0% = no confidence; 100% = certainty

Option 2, When the Measure Is in a Defined Set

1. To what extent did this project or program positively influence the following measures:

	Significant Influence			No Influence		
	5	4	3	2	1	n/a
productivity	O	O	O	O	O	O
sales	O	O	O	O	O	O
quality	O	O	O	O	O	O
cost	O	O	O	O	O	O
efficiency	O	O	O	O	O	O
time	O	O	O	O	O	O
employee satisfaction	O	O	O	O	O	O
customer satisfaction	O	O	O	O	O	O
other	O	O	O	O	O	O

2. What other measures were positively influenced by this project?

   _____

3. Of the measures listed above, which **one** is most directly linked to the project? (check only one)
   - ☐ productivity   ☐ sales   ☐ quality
   - ☐ cost   ☐ efficiency   ☐ time
   - ☐ employee satisfaction   ☐ customer satisfaction
   - ☐ other

4. Please define the measure above.

   _____

5. Indicate the specific unit of measurement.

6. How much did this measure improve since you began this project? _____

7. What is the frequency of the measure?

   ❑ daily ❑ weekly ❑ monthly ❑ annually

8. For this measure, what is the monetary value of improvement for one unit of this measure? Although this is difficult, please make every effort to provide the value.

9. Please state your basis for the estimated value of one unit of improvement you indicated above.

10. What is the total annual value of improvement in the measure you selected above?

11. List the other factors that have caused this total annual improvement.

12. Recognizing that other factors may have caused this improvement, estimate the percent of improvement related directly to this project of program?
   _____ %

13. What confidence do you place in the estimates you have provided in the prior questions? 0% is no confidence, 100% is certainty
   _____ %

Option 3, When the Measure Is Known

1. Please define the first measure connected to your project.
2. Define the unit of measure.
3. For this measure, what is the monetary value of improvement for one unit of this measure?
4. Please state your basis for the value of the unit of improvement you indicated above.
5. For the measure listed as most directly linked to the program, how much has this measure improved in performance?
6. Indicate the frequency base for the measure: Daily, weekly, monthly, quarterly.
7. What is the annual value of improvement in the measure you selected above? Multiply the increase (Question 5) by the frequency (Question 6) times the unit of value (Question 4).
8. List the other factors that could have influenced these results.
9. Recognizing that the other factors could have influenced this annual value of improvement, please estimate the percent of improvement that is attributable (or isolated) to the program. Express as a percentage out of 100%.
10. What confidence do you place in the estimates you have provided in the questions above? 0% is no confidence, a 100% is certainty.

Improving the Response Rate for Questionnaires

Administration

- Use one or two follow-up reminders.
- Have the introduction letter signed by a top executive.
- Use local manager to distribute questionnaires, show support, and encourage response.
- Use a local coordinator to help distribute and collect questionnaires.
- Enclose a giveaway item with the questionnaire (pen, money).
- Provide an incentive (or chance of incentive) for quick response.
- Distribute questionnaire to a captive audience.
- Consider an alternative distribution channel such as e-mail.
- Have a third party gather and analyze data.
- Keep questionnaire responses anonymous…or at least confidential.
- Make it easy to respond; include a pre-addressed stamped envelope.
- 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.

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 what actions will be taken with the data.
- Indicate who will see the results of the questionnaire.
- If appropriate, 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 and make the questions relevant.

Developing ROI with Action Planning

Before
- Communicate the action plan requirement early.
- Have them select actions/measures in advance.

During
- Describe the action planning process at the beginning 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.

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

_____

_____

_____

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_____

Action Plan

Name: *John Mathews* Instructor Signature: _____ Follow-Up Date *1 September*

Objective: *Reduce Weekly Absenteeism Rate for Team* Evaluation Period: *March to September*

Improvement Measure: *Absenteeism Rate* Current Performance *8%* Target Performance *5%*

Action Steps	Analysis
1. *Meet with team to discuss reasons for absenteeism – using problem solving skills..* **10 March**	A. What is the unit of measure? *One Absence*
2. *Review absenteeism records for each employee – look for trends and patterns..* **20 March**	B. What is the value (cost) of one unit? *$ 41.00*
3. *Counsel with "problem employees" to correct habits and explore opportunities for improvement..*	C. How did you arrive at this value? *Standard Value*
4. *Conduct a brief "performance discussion" with an employee returning to work after an unplanned absence.*	D. How much did the measure change during the evaluation period? (monthly value) *2.5%*
5. *Provide recognition to employees who have perfect attendance.* **31 March**	E. What percent of this change was actually caused by this program? *65%*
6. *Follow-up with each discussion and discuss improvement or lack of improvement and plan other action.*	F. What level of confidence do you place on the above information? (100% = Certainty and 0% - No Confidence) *80%*
7. *Monitor improvement and provide recognition when appropriate.*	
Intangible Benefits: *Less Stress, Greater Job Satisfaction*	

Comments: *Great Program – it kept me on track with this problem*

Module 5:
Data Analysis

Module 5: Data Analysis Overview

PLAN THE EVALUATION

COLLECT DATA

ANALYZE DATA

OPTIMIZE RESULTS

LEVEL 0: INPUT

LEVEL 1: REACTION AND PLANNED ACTION

LEVEL 3: APPLICATION

Start with Why: Align Programs with the Business

Make it Feasible: Select the Right Solution

Expect Success: Plan for Results

Make it Matter: Design for Input, Reaction and Learning

Make it Stick: Design for Application and Impact

Make it Credible: Isolate the Effects

Make it Credible: Convert Data to Monetary Value

Make it Credible: Tabulate Costs of Program

Make it Credible: Calculate ROI

Tell the Story: Communicate Results to Key Stakeholders

Optimize Results: Use Black Box Thinking to Increase Funding

LEVEL 2: LEARNING

LEVEL 4: IMPACT

LEVEL 5: ROI

Make it Credible: Identify Intangibles

INTANGIBLE BENEFITS

Notes:

_____

_____

_____

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_____

_____

Matching Exercise: Isolating the Effects of a Program

Instructions: For each of the following situations, please indicate the method used to isolate the effects of the program. Select from these methods:

A. Control group	C. Forecasting	E. Use of customer input
B. Trend line analysis	D. Participant's estimate	F. Expert's estimate

Situation	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-training 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-training program on the actual number of houses listed.

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.

Techniques to Isolate the Effects of Programs

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

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 group received training (pilot), six stores in control group were not trained
- Observed performance of both groups during the same time (sales and customer satisfaction)
- Collected evaluation data for both groups at the same time
- Neither group is aware of the control group arrangement

Criteria for the Control Group Arrangement:

- _____
- _____
- _____
- _____
- _____
- _____

Case Application: Micro Electronics, Inc.
Use of Trend Line Analysis

As part of a quality improvement program, a series of training programs has been conducted to improve quality for Micro Electronics, an electronics components manufacturer. One measure of quality is the reject rate – the percent of items returned for rework. Because of the overall 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 were involved in the program, which was conducted in July. After the program was completed, the training staff was interested in measuring the impact of the program on the reduction of rejects. The chart below shows the reject rate six months before and after the program was implemented. The trend lines show the relative trends and mid-point values both before and after the program.
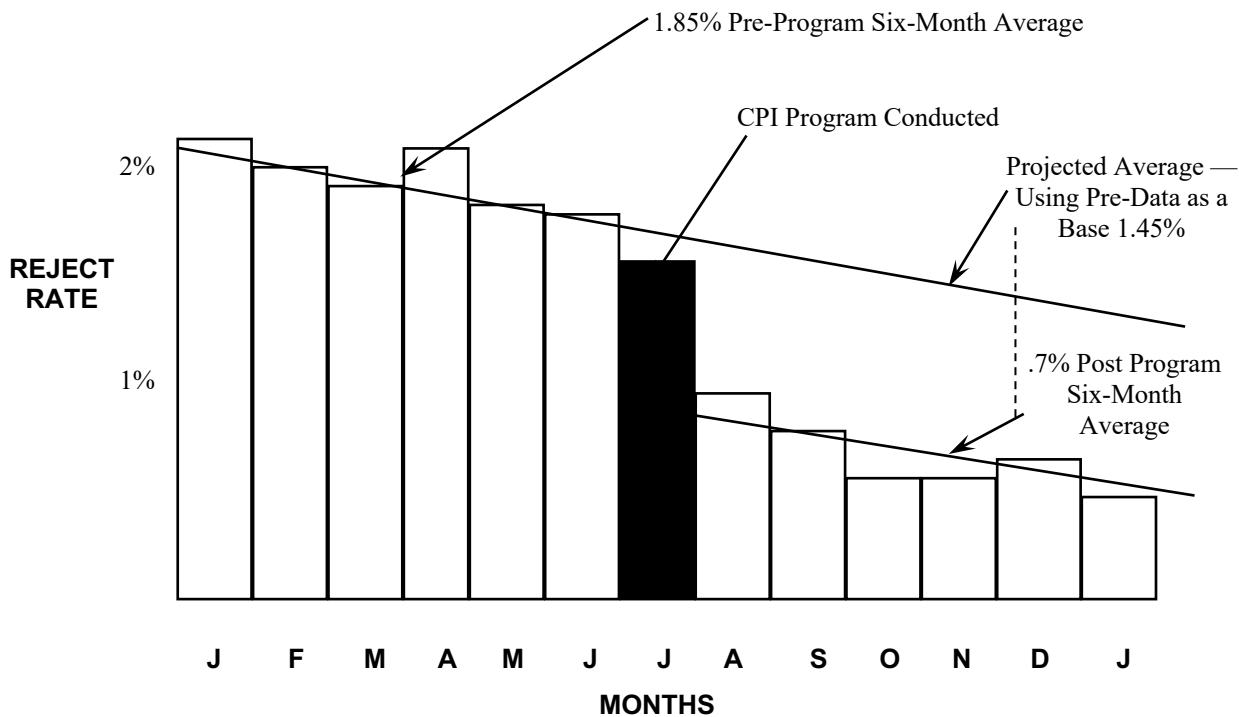
Questions for discussion:

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?

   _____

   _____

Estimation

Factor that Influenced Improvement	Percent of Improvement Caused By	Confidence Expressed as a Percent	Adjusted Percent of Improvement Caused By
OD Program	60%	80%	48%
System Changes	15%	70%	10.5%
Environmental Changes	5%	60%	3%
Compensation Changes	20%	16%	16%
	_____%	_____%	_____%
Other	100%		
Total			

Table 6: Example of estimation

Exercise:

If these numbers represent an individual's estimate and her sales showed a $10,000 per month improvement since the OD program was implemented, what is the total annual sales improvement connected to the OD program?

_____

_____

_____

_____

_____

_____

The Wisdom of Crowds*

One day in the fall of 1906, British scientist Francis Galton left his home in the town of Plymouth and headed for a country fair. Galton was eighty-five years old and beginning to feel his age, but he 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 particular day, what Galton was curious about was 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 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 a very few people had the characteristics necessary to keep societies healthy. He had devoted much of his career to measuring those characteristics, in fact, in order to prove that the vast majority of 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 were butchers and farmers, who were presumably expert at judging the weight of livestock, but there were also quite a few people who had 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– 13 were 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 the mark. 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

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

What Francis 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 in order 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.

Questions for discussion:

1. What implications does this concept have in evaluation?

   _____

   _____

   _____

2. Can you cite other examples?

   _____

   _____

   _____

* 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

Matching Exercise: Converting Data To Money

Instructions: For each of the following 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. Linking with other measures
H. Participant estimation
I. Management estimation
J. Estimation from HR staff

Write the letter in the box to reflect the method used.

Situation	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.	☐
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 has to 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 employees. The employees 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.	☐
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 employees. While there were several outcomes from this program, one in particular measure was expense account violations. To obtain the average cost of an expense account violation, all of 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. ❑

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. Wachovia 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 considered to be a standard value for the organization. ❑

Methods of Converting Data to Monetary Values

- Converting output to contribution—standard value (profit/savings)
- Converting the cost of quality—standard value
- Converting employee's 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

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.

_____

_____

Recommended Cost Categories

COST ITEM	PRORATED	EXPENSED
Needs Assessment	X	
Design and Development	X	
Acquisition (purchase)	X	
Delivery		
Salaries/Benefits—Facilitators		X
Salaries/Benefits—Coordination		X
Program Materials and Fees		X
Travel/Lodging/Meals		X
Facilities		X
Participants Salaries/Benefits		X
Contact Time		X
Travel Time		X
Preparation Time		X
Evaluation Overhead	X	X

Do you think it is unnecessary to capture the cost of any of the items above? Which ones? Why?

_____

_____

_____

_____

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

_____

_____

_____

_____

Approaches to Measure the Financial Payoff

- Cost Benefit Analysis
- Return on Investment

Most Common

- 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

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

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

$$\text{ROI (\%)} = \frac{}{} \times 100$$

Defining the Payback Period

$$\text{Payback Period} = \frac{\text{Total Investment}}{\text{Annual Savings}} \times 12$$

Example
Total Investment = $32,984
Annual Savings = $71,760

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

Common Intangible Variables Linked with Programs

- Accountability
- Alliances
- Attention
- Branding
- Caring
- Capacity
- Capability
- Citizen complaints
- Clarity
- Communication
- Cooperation
- Conflict

- Creativity
- Customer Satisfaction
- Decisiveness
- Donor loyalty
- Employee complaints
- Employee stress
- Employee engagement
- Human Life
- Image
- Innovation
- Job satisfaction

- Leadership
- Networking
- Organizational commitment
- Partnering
- Poverty
- Reputation
- Sustainability
- Teamwork
- Work climate

Could you add to the list?

_____

_____

_____

_____

_____

_____

_____

Module 6:
Reporting

Module 6: Reporting Overview

PLAN THE EVALUATION

LEVEL 0: INPUT

Start With Why: Align Programs with the Business

Make It Feasible: Select the Right Solution

Expect Success: Plan for Results

COLLECT DATA

LEVEL 1: REACTION AND PLANNED ACTION

LEVEL 3: APPLICATION

Make It Matter: Design for Input, Reaction, and Learning

Make It Stick: Design for Application and Impact

LEVEL 2: LEARNING

LEVEL 4: IMPACT

ANALYZE DATA

Make it Credible: Isolate the Effects of the Program

Make It Credible: Convert Data to Monetary Value

Make It Credible: Capture Costs of Program

Make It Credible: Calculate Return on Investment

LEVEL 5: ROI

Make It Credible: Identify Intangible Measures

INTANGIBLE BENEFITS

OPTIMIZE RESULTS

Tell the Story: Communicate Results to Key Stakeholders

Optimize Results: Use Black Box Thinking to Increase Funding

Notes:

_____

_____

_____

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_____

Common Target Audience

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
Training staff*	Show importance
All employees	Stimulate interest
Stockholders	Secure endorsement

Reporting Results

Reporting the results of the study is an important final step in the ROI Methodology. Properly identifying the audience and providing appropriate information is essential.

A variety of media can be used to communicate the project success:

Impact Study (50-100 pages)
- Detailed analysis
- Historical document
- Learning tool

Executive Summary (4-8 pages)
- Summarizes impact
- Follows the ROI Methodology

Face-to-Face Meeting (1/2-2 hours)
- Usually the first opportunity to see ROI data
- Builds support for the ROI Methodology
- Presents results and improvements

Brochure
- Project description
- Emphasis on results

One Page Summary
- Charts, tables
- Follows ROI data categories

Newsletter Article
- General interest
- Brief story

Web Site (brief summary of impact study)
- Charts, tables
- Link to methodology
- Downloadable

Case Study (15-25 pages)
- Published internally or externally
- Tells a story

Impact Study Outline

I.   General Information
      a.   Background
      b.   Study Objectives

II. Methodology for Impact Study
      A.   Levels of Evaluation
      B.   ROI Process
      C.   Collecting Data
      D.   Isolating the Effects of Program
      E.   Converting Data to Monetary Values
      F.   Costs
      G.   Assumptions (Guiding Principles)

> Builds credibility for the process.

III. Results
      A.   General Information
          1.   Response Profile
          2.   Relevance of Materials
      B.   Participant Reaction
      C.   Learning
      D.   Application of Skills/Knowledge
          1.   Barriers
          2.   Enablers
      E.   Business Impact
          1.   General Comments
          2.   Linkage with Business Measures
      F.   Costs
      G.   ROI Calculation
      H.   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

Matching Exercise: Reporting Results

Instructions: For each of the following situations, please indicate the method used to report the results from an impact/ROI study for a particular program. Select from these methods:

A. Live meeting with executives
B. One-page summary of results
C. Website summary
D. Website video
E. Executive summary

F. Panel discussion
G. Newsletter article
H. Brief case summaries
I. Case study book
J. Executive scorecard

Write the letter in the box to reflect the strategy used. Use each letter only once.

Situation	Method

1. Dale Carnegie had independent ROI studies conducted on two of its major programs: The Dale Carnegie course and Leadership for Managers. When a study is developed, an executive ROI summary, sent to all stakeholders involved in the program, provided essential data with explanations. The executive summary is a quick read for the individuals who paid for, or sponsored, the program. ☐

2. AT&T, a long-time user of the ROI Methodology, presented its impact study results in a one-page format. This simple format, designed to capture all of the data sets of an ROI study, is sent only to executives who already understand the methodology and know what the data items mean. It provides a quick overview of the six types of data, including the method of isolation, the method of converting data to money, and the methods used to collect data. ☐

3. SAP, the world's largest business software company, conducted several ROI studies to show the value of SAP Education to support software implementation. In each of these studies, the impact and value of the education component was isolated from the effect of the software. These studies were published as a book of case studies that helped prospective clients to see the value of SAP Education. Ultimately, the case study book provided impressive, strategic marketing data to help the team sell the educational part of the software implementation. ☐

4. A large telecommunications company places its impact/ROI studies on the website for use. In addition, for some major ROI studies, the company has included a video of the presentation of results. The video is essentially a rehearsal of the presentation to the senior management team and recorded for posting after the meeting is conducted. This 20-minute video of the summary results includes slides with all of the data sets, conclusions, and recommendations. ☐

5. Cracker Box, a large restaurant chain, conducted an ROI study on performance management training for new store managers. The study was conducted on the first program. Six months after the first program was conducted, the results were tabulated and reported to operational executives in a live face-to-face meeting. The executives were impressed with the study and asked if they could have similar results for other important programs. ☐

Matching Exercise: Reporting Results (continued)

Instructions: For each of the following situations, please indicate the method used to report the results from an impact/ROI study for a particular program. Select from these methods:

A. Live meeting with executives
B. One-page summary of results
C. Website summary
D. Website video
E. Executive summary

F. Panel discussion
G. Newsletter article
H. Brief case summaries
I. Case study book
J. Executive scorecard

Write the letter in the box to reflect the strategy used. Use each letter only once.

Situation	Method
6. The Governor's Office of the State of New York conducted an ROI study on supervisory training and used the results internally in the organization to make adjustments and improvements. The study was presented to a group of colleagues at a Global ROI Conference. The presentation, a part of a panel discussion, showed how this methodology can be used in a soft skills area.	☐
7. UNESCO, The UN Educational, Scientific, and Cultural Organization developed a learning scorecard based on the data generated from evaluation. Recognizing that each program is evaluated at some level, this scorecard integrates levels of evaluation and provides data about the L&D contribution across the organization. This scorecard provided data that the executive group needed, distinguishing it from previous scorecards which focused primarily on inputs and reaction data.	☐
8. SkillNets, an Irish organization funded by both the private sector and the government, sponsored the implementation of the ROI Methodology in Ireland. As part of its support and funding for the programs, SkillNets offered consulting services to develop ROI studies across a variety of Irish companies and organizations. In exchange for receiving funding to help conduct studies, each organization gave permission to publish its case study and to be distributed throughout the country. The 15 brief case summaries provided insight to how these studies were conducted and the challenges and opportunities along the way. More than anything else, the case summaries, in booklet form, provided insight into the power of the ROI Methodology.	☐
9. The Veterans Administration (VA) has been using the ROI Methodology for ten years. The website for the Employee Education System provides a summary of the progress made and specific goals. The website includes the number of individuals have been trained to build ROI capability and how many individuals have achieved ROI certification. Individual ROI studies are presented, along with summaries of analysis and various trends in ROI use, including a meta analysis of all the case studies. In addition, the website includes tools and templates to be exchanged among the team.	☐
10. A national bank conducted an ROI study on a professional development program for branch managers. The results were significant and impressive and uncovered some important changes to make the program even more successful. A summary of the study was placed in a newsletter for all of the employees. The summary was an easy to read, engaging account of the program and brought much appreciation for, and attention to, this job of branch manager.	☐

ROI Impact Study: One-Page Summary

Leadership Development Precision Manufacturing

The Leadership Challenge
- Four-day workshop with actions plans and support tools
- Each participant selects 2 KPIs to improve using the competencies with his or her team.

Target:
First-Level Managers 970
Sample 72
(18 managers, 4 groups)

Reaction – Objectives Met

Relevance	✓
Importance	✓
Intent to use	✓

Application Objectives on a 5-point scale

Extent of use	4.3
Frequency of use	4.5
Success with use	3.9

Barriers

Not enough time	23%
Lack of support	18%
Doesn't fit	14%
Other	10%

Learning Objectives Met
Pre- Post- Improvements

1. Communicate values and beliefs	48%
2. Focus on key values through actions	57%
3. Build collaboration teamwork and trust	42%
4. Strengthen others' abilities to excel	69%
5. Inspire others to share a common vision	53%
6. Recognize the accomplishments of others	67%

Methods of Isolation: Participant Allocation Adjusted for Error

Impact Objectives
Two Objectives for Each Participant

- Costs 23%
- Safety 17%
- Quality 29%
- Retention 21%
- Other 10%

Method of Converting Data to Money

- Estimate 13%
- Expert Input 63%
- Standard Value 24%
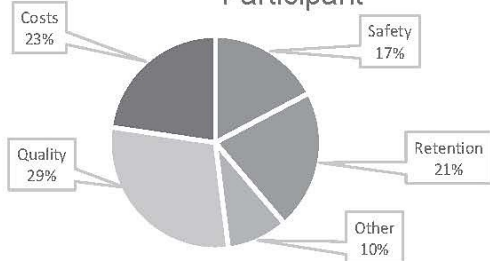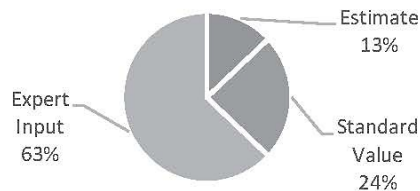
Costs – Direct $355,370
Indirect – Prorated $9,890
Total $365,260

Total Monetary Benefits = $538,640

Intangibles
- Engagement
- Satisfaction
- Stress

BCR = 1.47

ROI = 47%

Process Improvement is the Key: Black Box Thinking

EVALUATION	→	OPTIMIZATION	→	ALLOCATION
Measure		Improve		Fund

Questions for Discussion

1. Compare and contrast the approach to mistakes in the aviation and healthcare industries. Why does this happen?

_____

_____

2. What is your approach to failure in programs?

_____

_____

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?

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

Is program failure a serious problem?

_____

_____

Module 7:
Implementation Issues

When Properly Implemented, High ROI Values Can Be Achieved With Programs On:

- Leadership Development
- Performance Management
- Management Development
- Supervisor Training
- Talent Retention
- Flexible Work Systems
- Reward Systems
- Skill Based Pay
- Business Coaching

> 100% to 700% ROI is not uncommon.

ROI Methodology: The Payoff

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

Exercise:
What are your payoff opportunities?

_____

_____

_____

ROI is Credible

- Common categories of data
- Systematic, step-by-step process
- Conservative standards
- Results-based approach
- High level of use
- Client focused
- Satisfies all stakeholders

What Next?

Action Items to Implement a Comprehensive ROI Process

- Assess your progress and readiness
- Develop a policy and philosophy statement on results-based approach
- Clarify roles:
  - staff
  - employees
  - 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

Which actions will you pursue?

- _____
  _____

- _____
  _____

- _____
  _____

- _____
  _____

Setting Evaluation Targets

Example from a Large Telecommunications Company

LEVEL	TARGET
Level 1: Reaction	100%
Level 2: Learning	80%
Level 3: Application	30%
Level 4: Business Impact	15%
Level 5: ROI	5%

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

LEVEL	TARGET
Level 1: Reaction	_____%
Level 2: Learning	_____%
Level 3: Application	_____%
Level 4: Business Impact	_____%
Level 5: ROI	_____%

Notes:

_____

_____

_____

_____

_____

Appendix:
Tools and References

Turnover Costs Summary

JOB TYPE/CATEGORY	TURNOVER COST RANGES AS A PERCENT OF ANNUAL WAGE/SALARY
Entry Level—Hourly, Non-Skilled (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., Sales Representative, 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%

Note:

- Percents are rounded to reflect the general range of costs from studies.

- Costs are fully loaded to include all of the costs of replacing an employee and bringing him/her to the level of productivity and efficiency of the former employee. The turnover included in studies is usually unexpected and unwanted. The following costs categories are usually included:
  - Exit cost of previous employee
  - Recruiting cost
  - Employee cost
  - Orientation cost
  - Training cost
  - Wages and salaries while training
  - Lost productivity
  - Quality problems
  - Customer dissatisfaction
  - Loss of expertise/knowledge
  - Supervisor's time for turnover
  - Temporary replacement costs

- 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.

A Sample Size Table for Proportions[1]

Reliability is a function of sample size and consistency. To be reliable, you must be confident that the results were not caused by chance. It is typically acceptable to have one person in 20 whose results may be due to chance. The following chart outlines the number of people to sample for reliable results.

Degree of Accuracy = ± .05		Proportion of Sample Size = 0.5		Confidence Level = 95%	
Population	Sample	Population	Sample	Population	Sample
10	9	230	144	1,400	301
15	14	240	147	1,500	305
20	19	250	151	1,600	309
25	23	260	155	1,700	313
30	27	270	158	1,,800	316
35	32	280	162	1,900	319
40	36	290	165	2,000	322
45	40	300	168	2,200	327
50	44	320	174	2,400	331
55	48	340	180	2,600	334
60	52	360	186	2,800	337
65	55	380	191	3,000	340
70	59	400	196	3,500	346
75	62	420	200	4,000	350
80	66	440	205	4,500	354
85	69	460	209	5,000	356
90	73	480	213	6,000	361
95	76	500	217	7,000	364
100	79	550	226	8,000	366
110	85	600	234	9,000	368
120	91	650	241	10,000	369
130	97	700	248	15,000	374
140	102	750	254	20,000	376
150	108	800	259	30,000	379
160	113	850	264	40,000	380
170	118	900	269	50,000	381
180	122	950	273	60,000	381
190	127	1,000	277	70,000	382
200	131	1,100	284	120,000	382
210	136	1,200	291	160,000	383
220	140	1,300	296	1,000,000	383

[1] R. Zemke/T. Kramlinger, *Figuring Things Out*, © 1982, Addison-Wesley Publishing Co., Inc., Reading, Massachusetts. Reprinted by permission of the publisher.

Data Collection Plan - Metro Transit Authority

Evaluation Purpose:_____

Program: Absenteeism Reduction_____ **Responsibility:** Jack Phillips_____ **Date**: January 15__

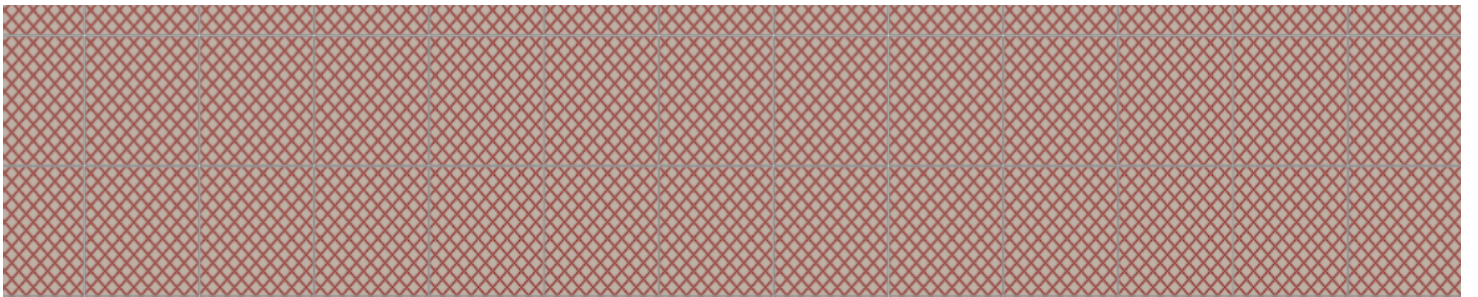| Level	Broad Program Objective(s)	Measures	Data Collection Method/Instruments	Data Sources	Timing	Responsibilities
1	**REACTION & PLANNED ACTION** • Positive Employee Reaction to the No Fault Policy	• Positive reaction from employees	• Feedback Questionnaire	• Employees	• At the end of employee meetings	• Supervisors
2	**LEARNING & CONFIDENCE** • Employee understanding of the policy	• Score on posttest, at least 70	• True/False test	• Employees	• At the end of the employee meetings	• Supervisors
3	**APPLICATION & IMPLEMENTATION** 1. Effective and consistent implementation and enforcement of the programs 2. Little or no adverse reaction from current employees regarding No Fault policy 3. Use the new screening process	1. Supervisors' response on program's influence 2. Employee complaints and union cooperation	1.& 2. Follow-up questionnaire to supervisors (2 sample groups) 3. Sample review of interview and selection records	1.Supervisors 2. Company records	1. Following emp meetings, sample 1 group at 3 months and another group at 6 months 2. Three mos and six mos after imp	• HR Program Coordinator
4	**BUSINESS IMPACT** 1. Reduce driver absenteeism at least 2% during first year 2. Maintain present level of job satisfaction as new policy is implemented 3. Improved customer service and satisfaction with reduction in schedule delays	1. Absenteeism 2. Employee Satisfaction 3. Delays impact on customer service	1. Monitor absenteeism 2. Follow-up questionnaire to supervisors 3. Monitor bus schedule delays	1. Company records 2. Supervisors 3. Dispatch records	1. Monitor monthly analyze 1 year pre and 1 year post imp 2. Three months and six months after employee meetings 3. Monthly	• HR Program Coordinator
5	**ROI** Target ROI ➔ 25%	Comments:_____ _____ _____				

ROI Analysis Plan - Metro Transit Authority

Program: Absenteeism Reduction   **Responsibility:** Jack Phillips   **Date**: January 15

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
1. Absenteeism	1. Trend line analysis and Supervisor Estimates	1. Wages & benefits and standard values	**Screening Process** • Development • Interviewer preparation • Administration • Materials **No Fault Policy** • Development • Implementation • Materials	• Sustain employee satisfaction • Improve employee morale • Improve customer satisfaction • Fewer disruptive bottlenecks in transportation grid • Ease of implementation by supervisors	• Senior management • Managers and supervisors • Union representatives • HR staff	• Concern about supervisors consistent administration • Partner with Union reps on how to communicate results of study to employees	
2. Employee Job Satisfaction	3. Supervisor estimates	N/A					
3. Bus Schedule Delays (Influence on Customer Satisfaction)	4. Management estimates	N/A					

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