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# The Public Sector Challenge: Developing a Credible ROI Process

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## Introduction

Consider the following scenarios.

- The USA Veterans Administration is using the ROI process to measure the success and impact of dozens of training and educational programs.
- The US Navy is measuring the impact and ROI for a management succession program.
- The Australian Department of Defense is using the ROI process to show the impact of a new human resources information system.
- A human resources manager in a medium-size southern USA city is using the ROI process to show the impact of a variety of human resources programs.
- A USA federal government agency is measuring the return on investment of a master's degree program conducted on site by a prestigious major university.
- The county board of education for a large eastern USA metropolitan area is requiring a projected ROI before in-service teacher training is conducted.
- A large western USA city is using the ROI process to measure the impact of an absenteeism reduction program for city bus drivers.
- The Italian Postal Service is using the ROI process to increase the efficiency and contribution of services as they compete with other postal services within the European Union and with private sector package carriers, such as DHL Worldwide.
- And the list goes on…….

These examples did not exist ten years ago. Today, measuring the return on investment of human resources, training, and performance improvement programs is commonplace around the globe. Initially, the trend was most evident in the private sector. Today, the public sector faces new challenges. Not only is there increased emphasis on understanding their inefficiencies, but also a new emphasis on building accountability into their processes.

All types of public sector organizations are using ROI evaluation as a way to meet these challenges. The settings for ROI applications range from small local governments to state governments, to major cities and to national and federal programs. The types of programs suitable for ROI evaluation vary significantly. Table 1 presents a sample list of programs appropriate for this type of comprehensive evaluation.



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**The ROI Process is appropriate for:**

- Performance Improvement Programs
- Training and Learning Solutions
- Education Programs
- Organization Development Initiatives
- HR Programs
- Change Initiatives
- Technology Implementation

Table 1. ROI is appropriate for all types of programs and solutions

Although the interest in return on investment has heightened and much progress is being made in understanding and calculating ROI, it is still an issue that challenges even the most sophisticated public sector organizations. Some professionals argue that it is not possible to calculate the ROI for any type of program. Others quietly and deliberately proceed to develop meaningful measures and ROI calculations.

Regardless of the position taken on the issue, the reasons for taking the ROI approach to evaluation are clear. Almost all training and performance improvement professionals share the belief that they must eventually show a return on investment. If an ROI is not shown, funding may be reduced, or the function may not be able to maintain or enhance its present status and influence in the organization.

The dilemma surrounding ROI evaluation is a source of frustration for many senior staff members and executives. Executives believe that most services are necessary to meet competitive and economic challenges. New programs and initiatives are important during restructuring and rapid change when employees must learn new skills and often juggle multiple projects. Executives intuitively feel that there is value in implementing these various programs. They logically conclude that programs and solutions will pay off in important business measures such as productivity improvements, quality enhancements, cost reductions, and time savings. They also believe that solutions enhance taxpayer satisfaction, improve morale, and build teamwork. Yet the frustration comes from the lack of tangible evidence of results. Although the payoffs are assumed, more evidence is to build credibility and secure funding for future programs.

The ROI process, developed by Jack J. Phillips and described in his book, *Return on Investment in Training and Performance Improvement Programs* (Phillips, 1997), represents a comprehensive, balanced approach to measuring the success of any type of solution. As shown in Table 2, the process develops a scorecard reporting six types of data, representing one of the most comprehensive methods to measure public sector programs.



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## The ROI Process™ Provides Six Types of Data

A comprehensive and systematic performance-based process that generates six types of measures:

- Reaction and Satisfaction
- Learning
- Application and Implementation
- Business Impact
- Return on Investment
- Intangible Measures

This balanced approach to measurement includes a technique to isolate the effect of the program or solution.

Table 2. ROI Definition: A Balanced Approach

## Public Sector Dilemma

### Drivers for Increased Accountability

The public sector activities are so complex that it is difficult to determine its expenditures. Regardless, increased accountability appears to be surfacing at federal, state, and local levels in a variety of programs and activities. While there are dozens of reasons for increased accountability, ten specific drivers are significantly influencing the public sector's need to measure the ROI of programs, solutions, or services.

- **Pressure from taxpayers to show how government funds are being used.** During the past fifty years, public expenditures in the U.S. have increased significantly. As a rate of gross domestic product (GDP), expenditures have risen from 10% in 1940 to 31% in 1997 (Stiglitz, 2000). While in countries such as Australia, Germany, Italy, and the United Kingdom the total expenditures are higher, taxpayer concern that government services are not adding enough value (in all countries) is driving the accountability issue. An ROI can show the contribution for government expenditures.
- **Government regulation requiring accountability.** In the USA, the Government Performance and Results Act of 1993 (GPRA) is an attempt to bring accountability for expenditures for public sector programs and initiatives. The purpose of this act is to provide for the establishment of strategic planning and performance measurement in the United States Federal Government. Consequently, this act is forcing many government organizations to plan for accountability in the beginning and show the results generated from expenditures on programs and initiatives.
- **Privatization of government sector.** Under this arrangement, a government function or organization is sold to the private sector and operates on a for-profit basis. Consequently, these government entities have to be streamlined and made more efficient prior to the sale. In other cases, the new "for-profit agency" must be efficient to compete with the private sector. In either case, the ROI process is being used to help streamline programs and solutions, making them more efficient and effective.



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- **A consistent lack of results or alignment.** With many public sector programs and solutions, the results have been unclear—sometimes nonexistent—forcing more focus on business impact and ROI. Also, in many situations, there has been a serious lack of alignment with business needs as the public sector program fail to be linked to impact measures.
- **A new breed of government managers with a business mindset.** New government executives are managing agencies the same way as executives in the private sector—they're requiring ROI information on new programs and initiatives. They bring a business mindset and are demanding accountability up to and including ROI.
- **Increased cost for many programs and initiatives**. New programs and processes are expensive – particularly those involving human resources and technology – creating more focus on accountability. A larger expenditure becomes a bigger target for criticism, scrutiny, and attention. This demands a higher level of accountability, including ROI.
- **Government agencies are learning from business organizations.** Through benchmarking and best practice exploration, agencies are learning the ways of the private sector. Because of the successes enjoyed in the private sector, many government agencies are attempting to apply the same principles in the government sector. The ROI process is one of the benchmarked processes being transferred from the private to the public sector.
- **Previous evaluation methods for government programs have been inadequate.** Traditional program evaluation methods have left many agencies seeking new and different approaches. Even a cost benefit analysis using traditional program evaluation hasn't always provided a full array of data needed to provide a complete picture of the impact of a new program or solution. In addition, the effects of other influences are often ignored in these types of evaluations. A more comprehensive, balanced, yet credible process is needed as offered with the ROI process, consisting of six types of data and a method to isolate the effects of the program.
- **Overall trend of accountability for all types of processes.** The public sector is reacting to the trend of increased accountability for all processes, functions, and programs. This persistent trend is a global phenomenon where the focus is on efficiencies, costs, and productivity. The monetary contribution of programs must be developed, including ROI.
- **Lack of management support for programs and solutions.** Managers will not support a process unless they see the value added in terms they understand, such as ROI. The ROI process is an excellent way to build support for new initiatives.

Collectively, these drivers for increased accountability bring a renewed focus on measurement and evaluation in the public sector, including measuring return on investment.

## Paradigm Shift in Public Sector Programming

In recent years, the programs and solutions implemented in public sector organizations have shifted from an activity-based process to a results-based profile. Previously, the activity-driven paradigm was based on the desire to have an abundance of programs—with many activities—consuming all available resources. Even the reporting of results was based on the number of programs, hours, participants, costs, and content. (These indicators are input-focused instead of output-focused.) Today, public sector programming is moving to a results-based paradigm. Programs are only initiated when specific business needs are identified and a variety of processes are utilized to ensure a linkage to business alignment, success, and results in every phase of the program—up to and including reporting the results based on the actual contribution of the program.



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Table 3 provides more detail about the paradigm shift involving eight specific programming phases that are fast becoming a results-based profile.

**Paradigm Shift in Public Sector Accountability**

| *Activity Based* | | *Results Based* |
|---|---|---|
| No business need for the program/ initiative/solution | → | Program solution linked to specific business needs |
| No assessment of performance issues | → | Assessment of performance effectiveness |
| No specific measurable objectives | → | Specific objectives for implementation and impact |
| No effort to prepare program participants to achieve results | → | Results expectations communicated to participants |
| No effort to prepare the work environment to support transfer | → | Environment prepared to support transfer/application |
| No efforts to build partnerships with key managers | → | Partnerships established with key managers and sponsors |
| No measurement of results or benefit cost analysis | → | Measurement of results and benefit cost analysis |
| Planning and reporting on programs/solutions is input focused | → | Planning and reporting on programs/ solutions is output focused |

Table 3. Paradigm Shift

## Special Issues for the Public Sector

Public sector organizations implementing ROI must confront several issues unique to the setting. While issues require special attention, they are sometimes mystical barriers that should not necessarily impede implementation. Five specific issues are identified here.

- **Absence of revenues and profits.** Most government agencies don't generate profits for their organization, particularly those connected with social and military programs. Sometimes there's a perception that an ROI value can only be developed when there are profits and revenues. In reality, this is far from the truth. When examining the ROI formula, presented later in this chapter, the numerator in the equation represents net benefits derived from either the profit margin or a cost savings. In practice, the vast majority of case studies, even in the private sector, develop monetary benefits based on cost savings. When productivity is improved, quality is enhanced, and cycle times are reduced, the result is a cost savings – a direct, bottom-line contribution. Thus, in the public sector, while revenues and profits may not exist, there are many other opportunities to develop successful ROI studies based on productivity, quality, and time improvement as well as direct cost savings through efficiency enhancements.



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Based on our direct involvement with 400 ROI impact studies, less than 15% of those have profit margins as a driver for the ROI, stemming directly from revenue improvements. An impressive 85% or more have ROI payoffs based on cost savings.

- **Absence of hard data.** Sometimes it is the perception that hard data are not available in government agencies—only intangible, soft data. This is not necessarily the case. Even in the simplest government unit, there is output, quality, cost, and time—the four major categories of hard data illustrated in Table 4. For example, in an agency charged with processing forms, (e.g., applications for work visas) all four types of hard data elements in play. Productivity (number of applications processed per day), quality (number of errors per 100 applications processed), time (the average time to complete an application), and cost (the cost per approved application) are all potential measures linked to training or HR programs. Thus, a particular program aimed at improving productivity, quality, or time will have a direct payoff on cost savings. Table 4 shows a sample of the types of hard data available in government units, illustrating the vast array of possibility when capturing hard data.

**Types of Hard Data**

| Output | Quality | Costs | Time |
|---|---|---|---|
| Services provided | Waste | Budget variances | Cycle time |
| Taxpayers served | Rejects | Unit costs | Response time for complaint |
| Applications processed | Defects | Cost by individual | Equipment downtime |
| Forms processed | Error rates | Variable costs | Overtime |
| Application approved | Rework | Fixed costs | Average delay time |
| Inventory turnover | Shortages | Overhead costs | Time to project completion |
| Patients visited | Deviation from standard | Operating costs | Processing time |
| Students graduated | Service failures | Delay costs | Supervisory time |
| Tasks completed | Inventory adjustments | Penalties/fines | Training time |
| Work unit productivity | Percentage of tasks completed properly | Project cost savings | Meeting time |
| Work backlog | Number of accidents | Accident costs | Efficiency (time-based) |
| Request honored | Customer complaints | Program costs | Order response time |
| | | Administrative costs | Late reporting |
| | | Average cost reduction | Lost time days |

Table 4. Examples of Hard Data

- **Multiple constituencies must be served.** Additional constituencies must be served with a government agency, exceeding the number usually found in the private sector. For example, in a typical ROI impact study, six major groups would always be very interested in the outcome: employees, who are the participants in the programs; the immediate managers of participants who support the program; the sponsor who initiates or approves the program; the top administrators who manage the agency; the lawmakers, who create laws and regulations about the accountability of programs; and taxpayers, who are concerned about the use of tax dollars. This scenario is a little more complex than private sector groups, where the senior executives, managers, and participants are the primary targets for communicating results.



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- **Government services are essential and, therefore, shouldn't have this level of evaluation.** Many government services *are* essential and must be provided, regardless of the accountability or contribution. This is not always the case in the private sector where many programs can be altered, changed, or replaced if they're not working properly. Many critical government support services can be changed very little and, thus, often create the illusion that they should not be evaluated. In reality, they should be subjected to detailed evaluation, at least for some major programs because the efficiency and effectiveness of the program can be changed, even if the program itself cannot be altered dramatically.
- **Restricted range of options to correct problems.** In the public sector, when a program is determined to have major problems, a full range of options is available to correct those problems, including discontinuing the program. A full range of options may not be available in the government sector because, in many cases, making radical changes or altering a program may not be the best course of action. On the positive side, many options are often available to improve the program in terms of efficiency, effectiveness, and its connection to the desired results.

At times, these five issues are considered impediments to measurement at the ROI level, rather than realistic barriers. They are often myths that must be dispelled for public sector units to make progress in this important area.

## ROI Status and Use

With the expansion of the ROI process, its status has grown significantly and the rate of implementation has been phenomenal. The number of organizations and individuals involved with the process underscores the magnitude of ROI implementation:

- The ROI process has been refined over a 20-year period.
- Thousands of studies have been developed using the ROI process.
- A hundred case studies are published on the ROI process.
- Almost four thousand individuals are certified to implement the ROI process in their organizations.
- Organizations in 44 countries have implemented the ROI process.
- Twenty books have been developed to support the process
- A 600-member professional network has been formed to share information.
- The ROI process has been adopted by hundreds or organizations in manufacturing, service, nonprofit, and government settings.

With this much evidence of the growing interest, the ROI process is now becoming a standard tool for program evaluation.

### Typical Applications

The specific types of program applications and solution implementations vary significantly. Table 5 shows a full range of current applications representing programs and solutions from training and development to education, human resources, change and technology.



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**A variety of applications is possible:**

- Executive Education
- Global Leadership
- Diversity Programs
- Wellness/Fitness Initiatives
- Total Quality Management
- Self-Directed Teams
- Skill-Based/Knowledge-Based Compensation
- Organizational Development
- Competency Systems
- Career Development Programs
- Recruiting Strategies
- Orientation Systems
- Associate Relations Programs
- Gain Sharing Programs
- Technology Implementation
- Safety and Health Programs
- Web-Based Training

Table 5. ROI Applications

## Building a Credible ROI Process

### Concerns with ROI

Although progress is evident, the ROI process is not without its share of problems and concerns. The mere presence of the process creates a dilemma for many public sector organizations. When an organization embraces the concept and implements the process, the management team is usually anxiously waiting for results, only to be disappointed when they are not quantifiable. For an ROI process to be useful, it must balance many issues such as feasibility, simplicity, credibility, and soundness. More specifically, three major audiences must be pleased with a specific ROI process to accept and use it—practitioners, senior managers, sponsors and clients, and researchers.

For years, practitioners have assumed that ROI could not be measured. When they examined a typical process, they found long formulas, complicated equations, and complex models that made the ROI process appear confusing. With this perceived complexity, administrators could visualize the tremendous efforts required for data collection and analysis, and more important, the increased cost necessary to make the process work. Because of these concerns, practitioners are seeking an ROI process that is simple and easy to understand so they can easily implement the steps and strategies. Also, they need a process that will not take an excessive amount of time to implement and will not consume too much precious staff time. Finally, practitioners need a process that is not too expensive. With competition for financial resources, they need a process that will not command a significant portion of the budget. In summary, the ROI process, from the perspective of the practitioner, must be user friendly, efficient, and cost-effective.

Senior managers, sponsors, and administrators who must approve budgets, request programs or solutions, or live with the results, have a strong interest in developing the ROI. They want an ROI process that provides quantifiable results using a method similar to the ROI formula applied to other types of investments. Senior managers have a never-ending desire to have it all come down to an ROI calculation reflected as a percentage. And, like practitioners, they want a process that is simple and easy to understand. The assumptions made in the calculations and the methodology used in the process should reflect their point of reference, backgrounds, and level of understanding. They do not want, or need, a string of formulas, charts, and complicated models. Instead, they need a process that they can explain to others, if necessary. More important, they need a process with which they can identify, one that is sound and realistic enough to earn their confidence.



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Finally, researchers will only support a process that measures up to their scrutiny. Researchers usually insist that models, formulas, assumptions, and theories are sound and based on commonly accepted practices. Also, they want a process that produces accurate values and consistent outcomes. If estimates are necessary researchers want a process that provides the most accuracy within the constraints of the situation, recognizing that adjustments need to be made when there is uncertainty in the process. The challenge is to develop acceptable requirements for an ROI process that will satisfy researchers and, at the same time, please practitioners and senior managers. Sound impossible? Maybe not.

**Criteria for an Effective ROI Process**

To satisfy the needs of these three critical groups, the ROI process must meet several specific requirements. Eleven essential criteria for an effective ROI process are outlined below:

1. The ROI process must be **simple**, void of complex formulas, lengthy equations, and complicated methodologies. Most ROI models have failed to satisfy this requirement. In an attempt to obtain statistical perfection and use too many theories, several ROI models and processes have become too complex to understand and use.
2. The ROI process must be **economical** and able to be implemented easily. The process should have the capability to become routine without requiring significant additional resources. Sampling for ROI calculations and early planning for ROI are often necessary to make progress with this concept without adding new staff.
3. The assumptions, methodology, and techniques must be **credible**. For an ROI process to earn the respect of practitioners and senior managers, it must have logical, methodical steps. This requires a very practical approach for the process.
4. From a research perspective, the ROI process must be **theoretically sound** and based on generally accepted practices. Unfortunately, this requirement can lead to an extensive, complicated process. Ideally, the process must strike a balance between maintaining a practical and sensible approach and having a theoretical basis for the process. This is perhaps one of the greatest challenges to those who have developed models for the ROI process.
5. An ROI process must **account for other factors** that have influenced output variables. Isolating the influence of the program or solution, one of the most often overlooked issues, is necessary to build credibility and accuracy within the process. The ROI process should pinpoint the contribution of the program when other factors have influenced the business measures.
6. The ROI process must be appropriate for use with a **variety of programs**. Some models apply to other only a small number of programs, such as team leader training. Ideally, the process must be applicable to all types of training and hr programs, such as career development, organization development, and major performance improvement change initiatives, including technology.
7. The ROI process must have the **flexibility** to be applied on a pre-program as well as a post-program basis. In some situations, an estimate of the ROI is required before the actual program is developed. Ideally, the ROI process should be able to adjust to a range of potential time frames for collecting data.
8. The ROI process must be **applicable with all types of data**, including hard data (typically represented as output, quality, costs, and time) and soft data (job satisfaction, grievances, and complaints).



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9. The ROI process must **include the costs** of the program. The ultimate level of evaluation is a comparison of benefits with costs. Although the term *ROI* has been loosely used to express any benefit of a solution, an acceptable ROI formula must include costs. Omitting or underestimating costs will only destroy the credibility of ROI values.
10. The actual calculation must use an **acceptable ROI formula.** This is often the benefits/cost ratio (BCR) or the ROI calculation, expressed as a percent. These formulas compare the actual expenditure for the program with the monetary benefits driven from the program. While other financial terms can be substituted, it is important to use a standard, acceptable financial calculation in the ROI process.
11. Finally, the ROI process must have a successful **track record** in a variety of applications. In far too many situations, models are created but never successfully applied. An effective ROI process should withstand the wear and tear of implementation and should get the expected results.

Because these criteria are considered essential, an ROI process should meet most, if not all of these criteria.

**When to Pursue ROI**

Not every public sector organization is ready for the ROI process, nor do they need it. Several important issues should be explored before launching the launching of the process. The quiz in Figure 1 provides a very brief assessment of several critical issues. Any public sector executive considering the application of the ROI process should briefly examine these issues by taking this quiz. A score in the 40-50 range indicates the timing is urgent and the need for ROI is immediate. Scoring in the 30-40 range indicates that, while the urgency is not as great, it is time to begin the process, recognizing that the implementation of ROI takes several months—even years—to fully implement. The need for ROI is not a concern on the immediate horizon if the score falls in the 20 and 30 range, but it would be helpful to build more formal structure into accountability to prepare for a potential shift in the future. A score below 20 indicates little need for this level of accountability in the foreseeable future, and may perhaps be completely unnecessary. A more detailed assessment is available in other publications (Phillips, Stone, and Phillips, 2001).

Several key issues are underscored in this brief examination. The ROI process is utilized by organizations reflecting certain characteristics. Typically, the larger the organization, the more likely the agency focuses on ROI. High-profile agencies demand accountability because of their presence and visibility. The size of the budget for the functional unit being examined for ROI can sometimes be a factor. Large, growing budgets are often targets for increased accountability. The internal drivers for accountability are another concern. Examining the specific influences for increased measurement often cause these organizations to migrate to the ROI process. Finally, organizations are more successful where there has been a focus on measurements, particularly through a quality improvement process, re-engineering, or Six Sigma implementation. These types of initiatives often require many other parts of the organization to measure the success as well.



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The symptoms for the need for ROI implementation are often readily apparent. Pressure from senior administrators within the agency is one of the greatest motivators to pursue this type of process. A historically low investment in measurement and evaluation is another signal that more emphasis is needed. One or more disasters in a particular function (such as human resources or training) can translate into an increased need for accountability to avoid a repeat in the future. A new leader of the function will sometimes initiate additional accountability. This new leader is usually not attached to any previous programs— emotionally or fiscally—and therefore, a review of what works and doesn't work is a logical step. Often, the image of the agency, or a function within the agency, calls for more accountability. An agency frequently under fire or a particular function that's notorious for wasting money creates the need for more accountability.

## Is Your Public Sector Organizational Unit Ready for Additional Measurement and Evaluation?

Check the most appropriate level of agreement for each statement:
1 = Strongly Disagree; 5 = Strongly Agree

| | Disagree 1 | 2 | 3 | 4 | Agree 5 |
|---|---|---|---|---|---|
| 1. Our organization is undergoing significant change. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. There is pressure from senior administrators to measure results of solutions. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Our organization has a culture of measurement and has established a variety of measures including some for solutions. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Our function currently has a very low investment in measurement and evaluation. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Our organizational unit has experienced more than one disaster in the past. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Our team would like to be the leaders in accountability. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. The image of our function is less than satisfactory. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Our sponsors/clients are demanding that solutions show results. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. Our function competes with other functions for resources. | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. There is increased emphasis on linking solutions to the strategic direction of the organization. | ☐ | ☐ | ☐ | ☐ | ☐ |

Figure 1. Readiness Quiz for ROI Implementation



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## Elements of the ROI Process

Building a comprehensive measurement and evaluation process is much more than implementing a statistical process. It includes significant components and is best represented as a puzzle where the pieces are developed and put in place over time. Figure 2 depicts this puzzle and the individual pieces. The first piece is the selection of an evaluation framework, which is a categorization of data.

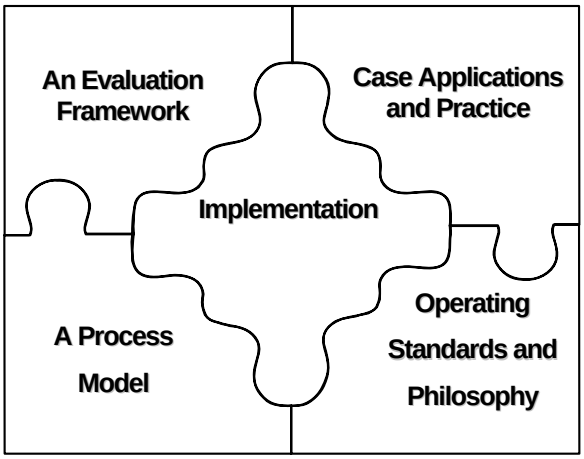


Figure 2. ROI: The pieces of the puzzle

The concept of different levels of evaluation is both helpful and instructive in understanding how the return on investment is calculated. Table 6 shows a five-level framework.

| Level | | Measurement Focus |
|---|---|---|
| 1 | Reaction & Planned Action | Measures participants' reaction to, and satisfaction with, the program and captures planned actions. |
| 2 | Learning & Confidence | Measures changes in knowledge, skills, and attitudes. |
| 3 | Application & Implementation | Measures changes in on-the-job behavior and progress with planned actions. |
| 4 | Business Impact | Measures changes in business impact variables. |
| 5 | Return on Investment | Compares program monetary benefits to the costs of the program. |

Table 6. Five levels of evaluation



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Next, an ROI process model must be developed, showing how data is collected, processed, analyzed, and reported to various target audiences. This process model ensures that appropriate techniques and procedures are consistently utilized to address almost any measurement issue. Also, there must be consistency as the process is implemented. The ROI process model is described in more detail later.

The third piece of the puzzle is the development of operating standards, which provide rules for processing data. These standards help ensure that the results of the study do not overly influence the study. Replication is critical for the credibility of an evaluation process and operating standards in the form of guiding principles allow for this. The following guiding principles have a conservative approach.

1. When a higher-level evaluation is conducted, data must be collected at lower levels.
2. When an evaluation is planned for a higher level, the previous level of evaluation does not have to be comprehensive.
3. When collecting and analyzing data, use only the most credible source.
4. When analyzing data, choose the most conservative among the alternatives.
5. At least one method must be used to isolate the effects of the solution.
6. If no improvement data are available for a population or from a specific source, it is assumed that little or no improvement has occurred.
7. Estimates of improvements should be adjusted (discounted) for the potential error of the estimate.
8. Extreme data items and unsupported claims should not be used in ROI calculations.
9. Only the first year of benefits (annual) should be used in the ROI analysis of short-term solutions.
10. Costs of the solution 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 key stakeholders.

Next, appropriate attention must be given to implementation issues, as the ROI process becomes a routine part of the training, HR, and performance improvement functions. Several issues must be addressed involving skills, communication, roles, responsibilities, plans, and strategies. An earlier In Action casebook focused specifically on this issue (Phillips, 1998)

Finally, there must be successful case studies that describe the implementation of the process within the organization, the value that a comprehensive measurement and evaluation process brings to the organization, and the impact specific programs evaluated have on the organization. While it is helpful to refer to case studies developed by other organizations, such as those found in this case book, it is more useful and convincing to have a collection of studies developed within the organization.

The ROI process model, shown in Figure 3, provides a systematic approach to ROI calculations. It shows the steps involved in calculating the return on investment of a solution. A step-by-step approach helps keep the process manageable so that practitioners can address one issue at a time. Application of the model provides a consistent methodology from one ROI calculation to the next. Following is a brief description of each step of the model.



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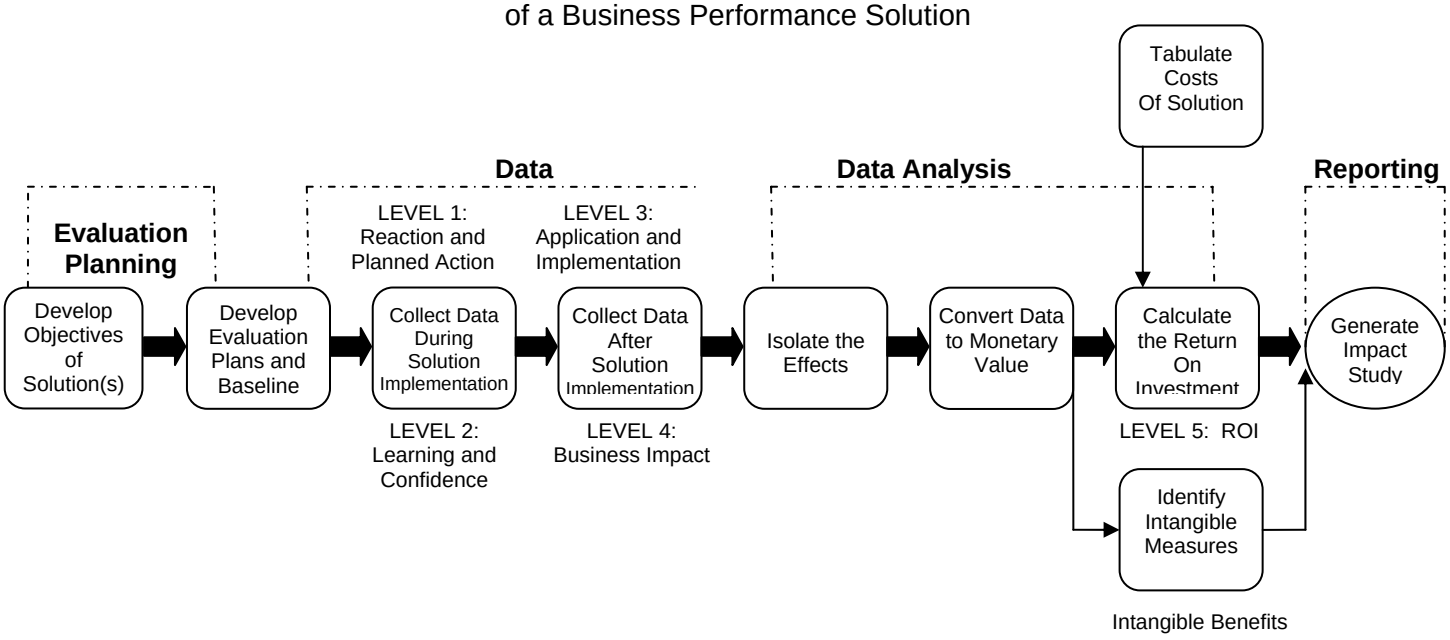


Figure 3. ROI Process Model

## Planning the Evaluation

One of the most important and cost-savings issues in the ROI process is planning the evaluation. A first step in the planning process is to develop specific objectives at different levels, sometimes including all five levels described in Table 6. Application, impact, and ROI objectives are necessary to generate the business contribution of programs and solutions.

Data collection is necessary for a comprehensive evaluation, and a data collection plan outlines, in detail, the steps involved. When selecting the data collection methods and developing the plan, four elements should be considered—evaluation purposes, instruments, levels, and timing. Typical items in a plan include the following:

- Broad areas for objectives are initially identified; more specific program objectives are developed later.
- Specific measures or data descriptions are indicated when they are necessary to explain the measures linked to the objectives.
- Specific data collection methodologies for each objective are listed.
- Sources of data such as participants, team leaders, and organization records are identified.
- The time frame in which to collect the data is noted for each data collection method.
- Responsibility for collecting data is assigned.



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The ROI analysis plan is a continuation of the data collection plan. This planning document captures information on several key issues necessary to develop the actual ROI calculation. The key issues include:

- Significant data items, usually Level 4 (business impact measures), but in some cases could include Level 3 data.
- The method for isolating the effects of the program.
- The method for converting data to monetary values.
- The cost categories, noting how certain costs should be prorated.
- The anticipated intangible benefits.
- The communication targets – those who will receive the information.
- Other issues or events that might influence program implementation.

These two planning documents are necessary to successfully implement and manage the ROI process.

## Collecting Data

Following the planning process, implementation begins. Data collection is central to the ROI process. Both hard data (output, quality, costs, time) and soft data (work habits, work climate, attitudes) are collected. Data is usually collected at two time frames. During the process for Level 1 and Level 2, and following the program for Level 3 and Level 4. A variety of methods are available for collecting the post-program data used in the ROI evaluation. Figure 4 lists these data collection techniques.

**Post-Program Data Collection Techniques**

| | ***Level 3*** | ***Level 4*** |
|---|---|---|
| Follow-up surveys | ✓ | |
| Follow-up questionnaires | ✓ | ✓ |
| Observation on the job | ✓ | |
| Interview with participants | ✓ | |
| Follow-up focus groups | ✓ | |
| Program assignments | ✓ | ✓ |
| Action planning | ✓ | ✓ |
| Performance contracting | ✓ | ✓ |
| Program follow-up sessions | ✓ | ✓ |
| Performance monitoring | | ✓ |

Figure 3. Data collection technique

The challenge is to match the data collection method or methods with the setting and the specific program, within the time and budget constraints of the public sector organizational unit.



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## Isolating the Effects of the Program

The most critical step in the evaluation process is one that is often overlooked: isolate the effects of the program or solution. In this step of the ROI process, specific strategies are explored that determine the amount of performance that is directly related to the program or solution. The result is increased accuracy and credibility of the ROI calculation. The following techniques have been used to address this important issue:

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

Collectively, these techniques provide a comprehensive set of tools to isolate the effects of training and performance improvement programs.

## Converting Data to Monetary Values

To calculate the return on investment, impact data collected at Level 4 is converted to monetary values to compare with program costs. This step requires a value to be placed on each unit of data connected with the program. Ten approaches are available to convert data to monetary values where the specific technique selected usually depends on the type of data and the situation. These approaches are as follows:

- Converting output to contribution—standard value
- Converting the cost of quality—standard value
- Converting employee's time
- Using historical costs
- Using internal and external experts
- Using data from external databases
- Linking with other measures
- Using participants' estimates
- Using supervisors' and managers' estimates
- Using staff estimates

This step is absolutely necessary for determining the monetary benefits from training and performance improvement programs. While challenging (particularly with soft data), this step can be methodically accomplished using one or more of the above techniques.



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## Tabulating Program Costs

The next step in the process is tabulating the costs of the program. Tabulating the costs involves monitoring or developing all of the related costs of the program targeted for the ROI calculation. Among the cost components that should be included are the following:

- The cost to design and develop the program, possibly prorated over the expected life of the program
- The cost of all program materials provided to each participant
- The cost of the facilitator, including preparation times as well as delivery time
- The cost of the facilities for the program
- Travel, lodging, and meal costs for the participants, if applicable
- Salaries plus employee benefits of the participants for the time they attend the program
- Administrative and overhead costs of the training and performance improvement function allocated in some convenient way to the program

In addition, specific costs related to the front-end analysis and evaluation should be included, if appropriate. The conservative approach is to include all of these costs so that the total is fully loaded.

## Calculating the ROI

The ROI is calculated using the program benefits and costs. The benefit/cost ratio is the program benefits divided by cost. In formula form it is:

$$BCR = \frac{\text{Program Benefits}}{\text{Program Costs}}$$

The ROI uses the net benefits divided by program costs. The net benefits are the program benefits minus the costs. In formula form, the ROI becomes:

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

This is the same basic formula used in evaluating other investments where the ROI is traditionally reported as earnings divided by investment. The ROI from some programs may be high. For example, in supervisory, leadership, and managerial training, the ROI is frequently over 100%, while the ROI value for HR, change, and technology may be lower.

The specific value for the ROI calculation has meaning only in relationship to what was expected. It is important to develop expectations, and in some situations, the actual ROI value as an objective for the project. Four specific strategies have been utilized to establish the expectation.



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- **Set the value the same as with other investments (e.g. 15%).** When an agency constructs a new building, an expected annual rate of return in established for that building. This value is developed internally and is usually a function of the cost of capital, if the agency had to raise the capital externally. For most countries in North America, Western Europe, and Asia Pacific, the value is in the 15-20% range. Consequently, when this strategy to set the expected return for a program or solution is set at that same value, treating it no differently from other investments.
- **Establish the value slightly above other investments (e.g. 25%).** With this strategy, the acceptable return is set above what would be expected for the ROI for other investments. Because of the newness of this concept to the public sector, this strategy may be preferred as it sets the program or solution accountability at a higher standard, when compared with other investments.
- **Establish the percent at break even (0%).** Use of this strategy underscores the fact that many of the functions, solutions, and programs within an agency were not designed to make a profit, but merely represent a payoff that would at least equal the expenditures. When the payback in monetary terms equal the expenditures, it's a 0% ROI.
- **Determine a specific acceptable amount from the sponsors of the program or solution.** As a new solution is implemented, the sponsors (client) indicate the acceptable ROI from the project for a specified time frame. This brings the focus on client expectations into the public sector situation.

Together, these four strategies provide an ample range of possibilities to establish the actual ROI value for a public sector unit.

### Identifying Intangible Benefits

In addition to tangible, monetary benefits, most programs or solutions have intangible non-monetary benefits. Data items not converted to monetary values are considered intangible benefits. While many of these items can be converted to monetary values, they often are not, because the process used for conversion is too subjective and the resulting value loses credibility through the process. These intangible benefits are the sixth measure reported in the definition of the ROI process and may include:

- Increased job satisfaction
- Increased organizational commitment
- Improved teamwork
- Improved service
- Reduced complaints
- Reduced conflicts

For some programs, these intangible, non-monetary benefits are extremely valuable, often carrying as much influence as the hard data items.



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## The Payoff for the ROI Process

The ROI process produces some important payoffs, both for the long and short term. Based on the experience of public sector organizations implementing the ROI process, payoffs fall into five categories:

- **Show the business contribution of selected programs and solutions.** The ROI process is the most credible way to show the actual impact, in business terms, for a solution within the public sector.
- **Earn the respect and support of senior management and administrators.** Agency heads will support programs and initiatives when they see value added. Other managers in the agency will support a process they believe is benefiting the agency and helping them meet their particular objectives in the agency.
- **Improve processes.** Since this is an evaluation method, an important part of the process is to determine what can be changed, altered, or modified to improve the program or solution. These improvements often translate into efficiency and effectiveness and actions.
- **Identify ineffective programs or solutions that need to be redesigned or eliminated.** Often, a program needs to be altered to make it more effective to increase the value. In some cases, it may need to be eliminated. When necessary, this process is the most rational approach to provide convincing data to discontinue the program.
- **Identify successful programs or solutions that can be expanded to other areas.** On the positive side, the ROI process will provide convincing evidence to expand a program or solution when it's adding value and another area, division, or agency needs the same program.

Collectively, these major payoffs from this process make it a very useful, convincing, and necessary tool for the public servant.

## Implementing the ROI Process

Successful implementation of the ROI process takes time and a concerted effort to integrate all the pieces of the evaluation puzzle (Figure 4) into the training and performance improvement function. The ROI process is not a quick fix to proving a program's worth. It is a comprehensive process that, when implemented to its fullest, can help position the training, HR, and performance improvement function as a strategic player in the organization. Initial strategies that will assist in ensuring successful implementation of the ROI process include:

- **Planning and discipline.** A great deal of planning and a disciplined approach will keep the process on track. Implementation schedules, evaluation targets, data collection plans, measurement and evaluation policies, and follow-up schedules are required.
- **Establish goals and targets:** An important part of implementation is to decide specifically how many programs are evaluated at specified levels. The issue is particularly important when considering those programs for business impact (Level 4) and ROI (Level 5) calculations. The approach involves two decisions: establishing target percentages and apply selection criteria. Table 7 shows the recommended percentages for a full array of possible solutions. In the training area, where a large agency may have 100 programs, these percentages are recommended as annual targets.



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For example, 30% of the programs will be destined for a Level 3 evaluation, but not necessarily every session of the program. Consequently, sampling is occurring in two ways: selecting the individual program or solution to evaluate and selecting the particular sessions or groups within that program.

| Level of Evaluation | Percent of Programs Evaluated at This Level |
|---|---|
| 1. Reaction and Planned Action | 100% |
| 2. Learning Confidence | 60% |
| 3. Application and Implementation | 30% |
| 4. Business Impact | 10-20% |
| 5. ROI | 5-10% |

Table 7. Percentage of Programs evaluated at each level

This approach leaves the overall percentage for Level 4 and 5 to be quite low. At Level 5, 5-10% is common and probably all that is necessary for most public sector environments. These low percentages for Levels 3, 4, and 5 are needed to ensure that the ROI process is feasible in terms of budgets, time, and disruption. Greater percentages may cost too much, be too disruptive, and would be overwhelming for the staff to accomplish.

A second part of this decision is to determine which specific programs would be subjected to business impact and ROI evaluation. Table 8 shows the typical criteria utilized to select programs for this level of analysis. Only those programs or solutions that are considered to be strategic, visible, expensive, or designed to deliver business impact are targeted for business impact and ROI evaluation.

**Criteria for Selecting Solutions/Programs for Impact Analysis**

- Life cycle of the solution
- Linkage of solution to operational goals and issues
- Importance of solution to strategic objectives
- Top executives interest in the evaluation
- Cost of the solution
- Visibility of the solution
- Size of the target audience
- Investment of time required

Table 8. Criteria for selecting programs for business impact and ROI analysis

- **Assigning responsibilities.** There are two key areas of responsibilities. The entire program or solutions staff, regardless of their individually assigned responsibilities, is responsible for measurement and evaluation. These responsibilities include ensuring that perceived needs include business impact measures; developing appropriate program objectives to include Level 3 (application) and Level 4 (business impact) objectives; focusing content to relate to the desired objectives; design appropriate data collection instruments; and communicate



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processes and evaluation results. The second area of responsibility is assigned to the group specifically involved with measurement and evaluation. Responsibilities for this group include designing data collection instruments; providing assistance for developing an evaluation strategy; analyzing data; interpreting results; developing the evaluation report or case study; and providing technical assistance with the ROI process.

- **Developing staff skills.** Many staff members neither understand ROI nor have the basic skills necessary to apply the process within their scope of responsibilities. The typical program does not focus on business results; it focuses more on learning outcomes. Consequently, staff skills must be developed to utilize the results-based approach of the ROI methodology.
- **Improving front-end analysis.** The ROI process is often undertaken to improve the evaluation of existing programs. This process often uncovers inadequate front-end analysis, revealing that programs are not needed or are improperly aligned with business needs. Consequently, the processes utilized in the initial analysis is often improved.
- **Implement cost-savings approaches:** The ROI process can quickly become an expensive and time-consuming process unless it's managed and organized correctly. Table 9 shows a variety of cost-savings approaches or strategies available to minimize the actual cost of this process. It is essential to undertake most of these approaches to conserve resources, including money and time, and keep the amount of disruption to a minimum. Utilizing these cost-savings approaches can enable a comprehensive process to be implemented for less than 4% of the total direct functional budget (e.g., training or HR). Additional information on cost savings approaches can be found in other publications (Phillips and Burkett, 2001).

**Cost-Saving Approaches to ROI**

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

Table 9. Cost Savings Approaches

- **Communicating progress.** It is important to communicate progress on efforts and address needs of appropriate audiences for evaluation data. It is also important to show the impact the programs have on the organization, usually through routine reports and meetings. Consequently, a communication plan must be developed and implemented.



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The challenge for public sector organization units is to determine if this process is needed now. Several key questions should be addressed about implementing a measurement and evaluation process, including ROI:

- "What will happen if nothing is done?
- Will the budget be reduced or not increased as desired or needed?
- Will the influence of our function reduced in some way?
- Will the support we enjoy for our programs be diminished?"

These and other questions are very critical in deciding if this process is appropriate for the organizational unit. Some issues are clear, while others need further analysis.

## ROI Reality

The reality is that ROI is here to stay—it is not a passing fad. It is a process that has been used for centuries to show accountability for expenditures. More important, the ROI process has now moved to the public sector and is being endorsed, supported, and implemented by many organizations. Several issues underscore the reality of ROI in the public sector.

- Executives, administrators, and sponsors of programs and solutions desire ROI information. Resistance to this request for information in this area may be an uncomfortable path.
- The ROI process provides a balanced, credible approach with six types of data. It meets the requirements of practitioners, administrators, and researchers.
- All types of organizations are routinely using the ROI process. Almost all levels of the public sector agencies are embracing the concept.
- The ROI process can be implemented without draining resources. It is estimated that a comprehensive process can be implemented for 4%-5% of the direct functional budget.
- The ROI process is a long-term goal for many organizations as they pursue the journey of increased accountability. Many organizations have collected different types of data and now see the need for the addition of a business impact and ROI measure as part of the mix.
- The ROI process takes time to implement. It is not a quick fix and will take months for it to be implemented effectively.

With these issues, there is no time like the present to begin the process.



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## Conclusion

This paper has attempted to outline the basic strategies and techniques concerned with bringing increased accountability to public sector organizations, including measuring the actual ROI. This introductory material sets the stage for reading and understanding the various key studies that follow.

ROI calculations are being developed by hundreds of public sector organizations to meet the demands of influential stakeholders. The ROI process described in this chapter is the most validated and utilized process used to bring balance and credibility to program measurement and evaluation. The trend to develop a comprehensive measurement process is likely to continue as public sector units become more streamlined, yet have greater reach. Through careful planning, methodical procedures, and logical and practical analysis, ROI calculations can be developed reliably and accurately for any type of program or solution, in any public sector organization, in any part of the world.

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**Jack J. Phillips, Ph.D.**

As a world-renowned expert on accountability, measurement and evaluation, Dr. Phillips provides consulting services for Fortune 500 companies and major global organizations. The author or editor of more than 50 books, Phillips provides workshops and conference presentations throughout the world.

His expertise in measurement and evaluation is based on more than twenty-seven years of corporate experience in five industries (aerospace, textiles, metals, construction materials, and banking). Phillips has served as training and development manager at two Fortune 500 firms, senior HR officer at two firms, president of a regional bank, and management professor at a major state university.

His background led Phillips to develop the ROI Methodology—a revolutionary process that provides bottom-line figures and accountability for all types of learning, performance improvement, human resources, technology, and public policy programs.

Phillips regularly consults with clients in manufacturing, service, and government organizations in 44 countries in North and South America, Europe, Africa, Australia, and Asia

Books most recently authored by Phillips include *Investing in Your Company's Human Capital: Strategies to Avoid Spending Too Much or Too Little,* Amacom 2005; *Proving the Value of HR: How and Why to Measure ROI,* SHRM 2005; *The Leadership Scorecard*, Elsevier Butterworth-Heinemann 2004; *The Human Resources Scorecard: Measuring the Return on Investment,* Elsevier Butterworth-Heinemann 2001; *Building a Successful Consulting Practice,* ASTD 2002; *The Consultant's Scorecard,* McGraw-Hill 2000; *Managing Employee Retention,* Elsevier Butterworth-Heinemann, 2003*; Return on Investment in Training and Performance Improvement Projects, 2nd Edition* Elsevier Butterworth-Heinemann 2003; *The Project Management Scorecard,* Elsevier Butterworth-Heinemann 2002; *How to Measure Training Results,* McGraw-Hill 2002*;* and *Performance Analysis and Consulting,* ASTD 2000. Phillips served as series editor for ASTD's In Action casebook series, one of ASTD's more ambitious publishing projects with 30 titles. Now, he serves as series editor for Elsevier Butterworth-Heinemann's Improving Human Performance series and Pfeiffer's new series on Measurement and Evaluation.

Phillips has received several awards for his books and his work. The Society for Human Resource Management gave him its highest creative award for an ROI study and an award for one of his books. The American Society for Training and Development gave him its highest award, Distinguished Contribution to Workplace Learning and Development. *Meeting News* named Phillips one of the 25 most influential people in the Meetings and Events industry, based on his work on ROI for the industry.

Phillips has undergraduate degrees in electrical engineering, physics, and mathematics; a master's degree in decision sciences from Georgia State University; and a Ph.D. in human resource management from the University of Alabama.

Jack Phillips has served on several boards of private businesses – including two NASDAQ companies – and several non-profits and associations, including the American Society for Training and Development. He is Chairman, ROI Institute, Inc. and can be reached at (205) 678-8101, or by e-mail at jack@roiinstitute.net.



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Dr. Patti Phillips is President of the ROI Institute, Inc., the leading source of ROI competency building, implementation support, networking, and research. She is also Chairman and CEO of The Chelsea Group, Inc., an international consulting organization supporting organizations and their efforts to build accountability into their training, human resources, and performance improvement programs with a primary focus of building accountability in public sector organizations. She helps organizations implement the ROI methodology in countries around the world including South Africa, Singapore, Japan, New Zealand, Australia, Italy, Turkey, France, Germany, Canada, and the US.

Patti's interest in accountability and evaluation began at an early age when purpose and results were even then measures of success. This followed her throughout academia and 13 years in corporate life. During her tenure as a corporate manager who observed performance improvement initiatives from the client perspective, results were imperative. As manager of the market planning and research organization of a major utility, she was responsible for the development of marketing programs for residential and commercial customers. In this role, she played an integral part in establishing Marketing University, a learning environment that supported the needs of new sales and marketing representatives.

In 1997, Patti took advantage of an opportunity to pursue a career in a growing consulting business at which time she was introduced to training, human resources, and performance improvement from a new perspective—yet a perspective that directly reflected her values of accountability, ROI evaluation. Since 1997, she has embraced the ROI methodology by committing herself to ongoing research and practice. To that end Patti has implemented ROI in private sector and public sector organizations. She has conducted ROI impact studies on programs such as leadership development, sales, new hire orientation, human performance improvement programs as well as K-12 educator development, educator National Board Certification mentoring program, and faculty fellowship programs. She is currently expanding her interest in public sector accountability through the application of the ROI methodology in community and faith-based initiatives including Citizen Corps, AmeriCorps, and the Compassion Capital Fund.

Patti's academic accomplishments include a Ph.D. in International Development and a Master of Arts Degree in Public and Private Management. She is certified in ROI evaluation and has been awarded the designation of Certified Performance Technologist. She has authored a number of publications on the subject of accountability and ROI. Patti's most recent publications include *ROI Basics*, ASTD (2005); *Proving the Value of HR: How and Why to Measure ROI*, SHRM (2005); *Make Evaluation Work*, ASTD (2004); *The Bottomline on ROI*, Center for Effective Performance (2002), which won the 2003 ISPI Award of Excellence; *ROI at Work*, ASTD (2005); the ASTD *In Action* casebooks, *Measuring Return on Investment Volume 3* (2001), *Measuring ROI in the Public Sector* (2002), and *Retaining Your Best Employees* (2002); the ASTD *Infoline* Series including Planning and Using Evaluation Data (2003), Mastering ROI (1998), and Managing Evaluation Shortcuts (2001); and *The Human Resources Scorecard: Measuring Return on Investment,* Butterworth-Heinemann (2001). She is published in a variety of journals, serves as adjunct faculty teaching training evaluation, and speaks on the subject at conferences including ASTD's International Conference and Exposition and the ISPI International Conference. Patti can be reached at patti@roiinstitute.net.



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