Institute for Interactive Technologies

White Paper:

Conducting a Performance-Based ROI Study

Karl M. Kapp

Phone: (570) 389-4849
Fax: (570) 389-4943
E-mail: kkapp@bloomu.edu
www.karlkapp.com

Introduction

Traditionally, e-learning is sold as a method of cost avoidance or cost savings. Clients are told that if they buy e-learning, they will save thousands or millions in travel expenses. While that method is effective for showing costs savings, it is not really a return on an investment. It is the first step but not the last in an attempt to show value to the organization. To show a return, you need to show how e-learning can bring money to the bottom line of the client's organization.

If you can get good numbers from your potential client, you can make a strong case for e-learning and show impact on the bottom line and on corporate goals. The process of conducting a performance-based Return-On-Investment study involves eight steps. These steps are general guidelines for conducting the analysis. Typically, modifications will need to be made to each step based on the clients unique arrangement.

The benefit of conducting a case study to show performance-based ROI is that you provide the client with leveragable information so when they talk to management; they are speaking the language of management. It provides compliance officers, managers of manufacturing units and other mid-level executives with credibility and valid information to make critical business decisions.

Overview of the Eight Steps

Conducting a performance-based ROI study at a client site consists of eight steps. These steps are:

1) Identify the Program for Analysis. Gather data that is needed to choose the right program. This includes tying the program to divisional and corporate goals.
2) Determine primary goals. This is where you explore the goals of the individual with whom you are working.
3) Operationally define the measurements that will be used to measure the increased performance based on the learning intervention.
4) Dollarize the metrics. Once you determine what will be measured, you need to determine how to put a dollar value on those metrics.
5) Conduct a baseline assessment of performance. Once you have determine and dollarized the metrics, you need to determine a base line of performance. This may involve a pre-post-test arrangement or it may involve using a test group and a control group.
6) Conduct the e-learning or blended learning event.
7) Gather post learning data or data from the control and test groups.
8) Determine the Return-On-Investment at intervals of 30, 60, and 90 days.

The remainder of this paper describes each of the eight steps in detail.

1) Identify the Program for Analysis. Gather data that is need to choose the right program.

To determine the most appropriate training program for our ROI analysis, we analyze the following criteria:

1. Metrics appear to be readily available
2. The topic is one that has visibility and is "cared about" by the business unit
3. The traditional stand up version of the class is conducted on frequent basis (quarterly, yearly)
4. Links with Business Unit and Corporate Goals
5. Potential for a high ROI.

To facilitate the comparison of data regarding the most appropriate training program for analysis, develop a comparison grid. The grid will provided a quick glance look of the primary criteria described above. In each cell of the grid, describe the suitability of that course a weighted against the criteria.

Selection Criteria	First Course Considered	Second Course Considered	Third Course Considered
Metrics Appear Readily Available	*Description of suitability*		
Topic has High Visibility			
Stand up Version is Taught Frequently			
Link with Business Unit and Corporate Goals			
Potential for High ROI			

Since this is a performance-based measurement, the program already needs to be in place in order for the performance measurements to be taken. To determine the metrics, you may want to interview management personnel, your contact, compliance officers and any representatives responsible from each of the areas the training that you want to measure.

Metrics

From these interviews, you should be able to gather a list of potential metrics for the programs and identify the level of accessibility to those metrics (i.e. do the metrics exists in a current report, does a new report need to be created, is the metric only available through interviews and spot-checks of processes, etc.).

Ask the following types of questions:

1) What types of reports do you use to manage compliance issues? (obtain copies if possible)
2) What type of metric do you already have in place to manage compliance?
3) What type of compliance problems or issues have you had in the past?
4) Do you track trailing or leading indicators of compliance? Or both. (may have to explain the difference between the two)
5) What type of trailing or leading indicators would you like to track?
6) What automated system or systems do you use to track compliance issues (if any?)
7) What are the criteria you use to measure success or non-success?
8) How do you know when you compliance learning events are having an impact?
9) What does upper management "care about" when they look at compliance issues?
10) What type of behavior would constitute success?
11) What employee actions would result in success? What management actions?
12) What analytics would show whether the project is successful?
13) Are there baseline analytics that suggest the need for the project?

Visibility

The next item to consider is the program's visibility level. A highly visible program can be defined as such for a variety of reasons. For example, a program may be highly visible because of the strategic direction of the corporation. If the corporation was focusing on decreasing sanctions, that program would naturally be of more interest to senior management then a program simply to "check off" that the program had been taken. Another reason a program may be considered highly visible is due to the sheer number of individuals the program impacts. In comparing learning programs, see which ones impact the most people.

Ask the following types of questions:

1) Is there a program everyone needs to take?
2) Is there a learner intervention that is required to be put into place? Or was required to be put into place recently?
3) What program has the most visibility to upper management? Why?
4) What program would impact the most executives?
5) What program would save your organization the most money?
6) Is there a current program everyone "hates" or "loves"?
7) Which programs tie most directly to your business unit objectives?

Stand Up Version is Taught Frequently

This is to determine if there can be a direct comparison to the stand up program (if one already exists). If a stand up program has to be given quarterly, or yearly to multiple individuals on multiple shifts, it is an excellent candidate for performance-based ROI since savings can be generated by placing it on-line and you can track results through out the year or quarter.

Ask the following types of questions:

1) How often is this training offered?
2) How many shifts need this training? (do you run multiple shifts?)
3) Would you like to offer this course more frequently?
4) What are the desired results of this course?
5) Do you feel you are obtaining those desired results?

Links with Business Unit (BU) and Corporate Goals

You need to establish both business unit goals and corporate goals. It may be easier to establish the business unit goals and then help the client to link those goals to corporate goals or the client may already have an idea of the link. Once BU goals are linked to corporate goals, you need to link the BU goals to the course that you want to conduct the performance-based ROI. You need to ensure that the course can be clearly linked to BU goals.

Ask the following types of questions:

1) What is the ideal business outcome?
2) Are there measurable sub-goals or mid-points?
3) Are these goals mandated?
4) What are the underlying drivers?
5) Is the compliance goal to gain "a checkmark" on desired tasks (e.g., cover the basic requirement) or to truly change behavior and change the culture?

High ROI

The final component we considered to determine which program to use for the analysis was the program's potential for a high ROI. Although this potential is difficult to gauge, there are driving factors within each training program that may point towards one program having a higher ROI than another.

Ask the following types of questions:

1) Is this currently an expensive program?
2) Does this program have a large number of involved in its administration?
3) Are there large numbers of employees taking the class?
4) Does the material need to be updated yearly.

2) Determine primary goals.

This step should be similar to the first. However, rather than looking at corporate or divisional goals, you need to look at the goals of the individual with whom you are working. You want to know what is driving them to be vested in this program and you want to explain to them how this process will benefit them when they are working with upper management. You need to explain how leveraging these numbers can provide a distinct advantage when discussing resource allocations of time and money to this type of training.

Ask the following types of questions:

1. What are the risks to you if the desired outcomes are not reached?
2. Why do you want to undertake this study?
3. What is your next career move?
4. Have you tried before to undertake such a study? If so, how did it go and what were the results or pitfalls that you encountered?
5. How do you see using the results of this study?

3) Operationally define the measurements.

At this point, you need to determine what baseline measure will be taken to access the impact of the on-line training. Determine a behaviorally defined performance measurement. This means that objective observers can view and agree upon a behavior that is a result of e-learning. For example, if you wanted to measure days lost due to injury, you can objectively measure whether or not any days have been lost to injury. (A worker is either present or not present, if not present; it can be due to injury or for some other reason).

This involves precisely defining what should be measured. You need to determine what performance results need to be measured and then you need to find away to measure those items. At this stage you may want to find reports and other measurements that are currently undertaken by the organization. The chart below indicates some benefit areas in which to look and some questions that you may ask. Remember, you must develop measurement that are objective and easy to distinguish.

You cannot have a measurement like “employees will understand what it means to be compliant with the regulations.” You need to define what understand means. Something like “when faced with a non-compliant situation employees will take corrective action and record that action on an incident sheet.” You can measure the number of incident sheets objectively.

You also need to determine which part of the behavior improvement is due to the learning intervention. Sometimes, multiple sources can contribute to an increase. For example, with the injury example, while e-learning may have contributed to decreased injuries, the fact that new procedures are put into place, posters are hung and employees were rewarded for injury free days may have had an impact as well. Need to get consensus on the percent improvement that was a result of training.

Benefit Type	Questions to establish Performance Metrics
Improved Employee Productivity	• How is employee performance measured? • What are the current performance levels for these measurements? • What are the performance measurement goals after the e-learning initiative? • How can the performance improvements be quantified into bottom line savings?
Improved Quality	• How is quality defined and measured? • What are the current quality levels and projected quality levels after the e-learning initiative? • How does improved quality relate to business results?
Improved Customer Satisfaction	• How is customer satisfaction defined and measured? • What are the current customer satisfaction ratings and projected ratings after the e-learning initiative? • How does improved customer satisfaction relate to business results?

4) Dollarize the measurements.

Once you have decided what to measure, you need to assign a dollar value to it so that can have value. In this step, you take the measurements from the previous step and equate them with dollars.

The table below provides some examples.

Type of Savings		Savings Formula
Time		
Shorter lead to reach proficiency		(hours saved x dollar value of work per hour)
Less time required to perform operations		(hours saved x dollar value of work per hour)
Less supervision required of employees		(supervisory hours saved x pay per hour)
Increased productivity		
Faster work rate		(dollar value of additional units, sales, etc.)
Time saved by not waiting for help or being idle		(hours saved x dollars per hour + hours of helpers time saved x dollars per hour)
Time saved searching for an retrieving data when could be producing		(hours saved x dollars per hour)
Improved Quality		
Less data entry mistakes		(dollar value of mistakes x decreased mistake level)
Reduction in errors resulting in compliance problems		(dollar value of error x number of errors)
Increased customer service		(percent increase in market share x dollar value of increase)
Better Employee Performance		
Avoiding the need to hire new employees		(savings in recruitment costs and salary and benefits of new employee)
Better utilization of time		(hours freed x dollars per hour x opportunity cost of freed hours)
Less absenteeism due to accidents		(hours of increased productivity x dollar value per hour + cost of hiring a temporary worker. + cost of claims)

5) Conduct a baseline assessment.

At this stage of the process, you conduct a baseline assessment of the situation. Basically this means you record all of the existing measurements and you determine the dollar value of the current costs. This is done by assembling each performance objective, assigning a dollar value to the objective and then adding up the results.

You can conduct two types of baseline assessments depending upon the type of study you are undertaking: Two Group Comparison Study or a Single Group Pre-test/Post-Test study

Two Group Comparison Study

In this case, you collect data on two groups of employees. One group, the control group will have the same type of training as is always conducted or no training at all depending upon what you are measuring. The treatment group will be the group that will have the on-line learning or blended learning experience. You need to collect the exact same performance data on both groups both before the on-line learning and after, however, at this point, you are just collecting the initial data for each group.

Single Group Pre-Test/Post-Test Study

For this study, you need to collect data just on one group. You will then compare the baseline data with the data collected after the on-line or blended learning event. The baseline data is the operationally defined and dollarized performance measurements you identified earlier.

6) Conduct the e-learning or blended learning event.

This is where the actual learning event occurs. This part of the process should have little intervention from the researcher collecting ROI data.

7) Gather post learning data or data from the control and test groups.

Once the learning event has occurred, you need to gather data on the completed learning. You need to gather the same data you did for the baseline assessment.

Two Group Comparison Study

As stated earlier, comparison study uses two groups, a control group and a treatment group. The control group gets the same type of training or learning intervention that they have always received. The treatment group gets the on-line learning or blended learning approach.

You must break the target audience into two groups. One group will be given the on-line instruction and the other will be given a traditional learning approach. In this case, you measure performance of both groups before the learning event intervention and after the intervention. After the learning intervention you collect the data and then compare the data from the two groups. The chart below provides an effective means of displaying the results.

Measurement	Control Before Intervention	Control Group After Intervention	Treatment Group Before Intervention	Treatment Group Before Intervention
Days lost due to accidents	2	2	2	1
Time spent in Training	8 hours	8 hours	8 hours	4 hours
Number of non-compliance incidences	10	8	10	6

Single Group Pre-test/Post-Test study

The single group pre-test/post-test study collects the same data on the same group as the baseline assessment. The chart below shows one method of displaying the results. Any time you collect data and record the results, you should indicate the formulas used to determine the results and state any assumptions that were made regarding the study.

Measurement	Before Intervention	After Intervention	Benefit Calculation with assumptions	Dollar Impact
Days lost due to accidents	2	1		$30,000 in savings
Time spent in Training	8 hours	4hours	This assumes that all learners took the classroom training during the in plant offering.	$100,000 in savings
Number of non-compliance incidences	10	8	These are the number that were recorded	Non-quantifiable

For each of these charts, the values need to be converted into dollar values to be used to record the final results of the study. In some cases, it may be difficult to assign a dollar value but you still want to draw attention to the item. In those cases, you can simply list the improvement and call it non-quantifiable.

8) Determine the Return-On-Investment at intervals of 30, 60, and 90 days.

Once you have established performance metrics, you can re-measure those metrics again and again at certain assigned interval to determine the impact. You can also measure the impact in terms of Net Benefits, Benefit Cost Ratio and/or ROI. Depending upon the needs of the client. The chart below includes an example of all three formulas and calculations.

Calculations		
Method	**Description and Calculation**	**Return On Investment**
Net Benefit (NB)	Compares benefits to cost of the initiative. NB = Benefit – Cost	10,375,000 – 1,400,000 = **$8,975,000 Net Benefit**
Benefit Cost Ratio (BCR)	Ratio for benefit returned for each dollar invested. BCR = Benefits / Costs	10,375,000 / 1,400,000 = **7.41 Benefit Cost Ratio**
ROI %	Percent in net benefits for every dollar invested. ROI% = (NB / Cost) x 100	(8,975,000 / 1,400,000) * 100 = **641% ROI**

Summary

Following this eight step process will help you to show the value of your e-learning efforts. Use the process to show that e-learning is more than just a cost savings method but a method to improve performance as well.

This white paper was written by Karl M. Kapp, Ed.D, Associate Professor of Instructional Technology at Bloomsburg University's Institute for Interactive Technologies. You can visit Karl at his web site http://www.karlkapp.com. The site contains a variety of resources related to learning, e-learning and gadgets, games and gizmos for learning.

