

# Calculating the Return on Investment (ROI) of Corporate eLearning

## A White Paper by

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In choosing an eLearning system, managers frequently need to calculate the “return on investment” (ROI) of their buying decision. From an accounting point of view, calculating the ROI is relatively simple; place a monetary value on all the known benefits of installing a learning management system, deduct all known costs, and then divide the total by the costs. Multiply the result by 100 to express ROI as a percentage.

Expressed as a formula, return on investment is:

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

For example, a training program for XYZ Company produces measurable benefits of \$400,000 and costs \$40,000. Net Program Benefits are \$400,000- \$40,000 = \$360,000.

$$\text{ROI} = \frac{\$360,000}{\$40,000} \times 100 = 800\%$$

For every \$1 invested there is a net benefit of \$8 after costs are covered. This figure is usually expressed as annual benefit, even though there may be long-term effects. It is expressed this way because with traditional classroom based training, the impact of the training usually diminishes after a year. However, with an electronic performance support subsystem as part of an on-line learning system, skills can be reinforced long after a course is over.

However, not all information can be expressed a number, making the final decision more complicated than it might seem. As well, an accounting focus tends to place the emphasis on the *efficiency* of the solution, rather than its *effectiveness*.

## **Kirkpatrick's Hierarchy and the ROI of Training**

In 1959, Donald Kirkpatrick, Professor Emeritus at the University of Wisconsin, created a four level hierarchy for evaluating the effectiveness of training (see 2<sup>nd</sup> edition, Kirkpatrick, 1998). These are:

- Level 1: Training Reaction- did the participant like program; did they feel it to be valuable; did it meet their expectations? This is measured by having participants fill out evaluation sheets at end of course.
- Level 2: Learning - did participants learn what they were supposed to learn? This is measured by comparing scores on pre- and post-tests
- Level 3: Behavior- did the participants apply the new learning back on the job? This is measured by supervisor's observations.
- Level 4: Results - did training have any measurable business impact

Recently Jack Phillips (1997) added a fifth level focusing on return on investment.

Until recently, the emphasis of corporate training has been on measuring the effects of training at Levels 1 and 2 (reaction and assessment of learning), with some attention paid to Level 3 (behavior) (Training Magazine, 1996). Yet it is at the levels of behavior change, business results and ROI (Levels 3, 4 and 5) that we need to focus if we are to increase training effectiveness in ways that measure effects on profitability. Although few companies actually do measure impact on business and the ROI of training, interest in doing so has recently increased for a number of reasons.

Many senior executives now recognize that training is a basic necessity, especially when their organizations undergo growth, change, restructuring or significant competition. In these situations gaps can emerge between what the employees of an organization currently know and what they need to know, to remain competitive. Additionally, executives perceive that proper training can contribute to bottom line measures such as productivity improvements, cost reductions, customer satisfaction, improvements in morale and teambuilding (Phillips, 1997).

In a 1998 ASTD study of 540 companies the following benefits of training were found<sup>1</sup>:

- 57% higher net annual sales per employee when employees are trained (\$385,000 vs. \$245,000)
- 37% higher annual gross profits per employee when employees are trained (\$165,000 vs. \$120,000)

The report's authors concluded that “investments in training and learning predict corporate financial performance.”

Although training is recognized as a basic necessity, it is estimated that only 20-30% of all training is actually used on-the-job one month after it is taken. This means that most training is ineffective, poorly planned and implemented. Courses are often taken without assessment of the employee's real needs being made. When new skills are acquired, little is done to reinforce them. In short, the training that most employees receive often does little to contribute to an organization's profitability.

In a situation such as this, it is clearly a competitive advantage to:

- have a training system in place that can be easily used to compare current states of knowledge and performance levels with desired states (gap analysis)
- deliver the means of correcting that gap in an efficient, cost-effective manner
- focus on performance objectives (i.e. what employees do), and not on learning objectives (i.e. what employees know)
- deliver training that is effective, well planned and implemented, that assesses employee's real needs and that easily reinforces those needs
- provide individualized, just-in-time, competency-based learning,
- provide learning that focuses on exactly what each employee needs to know, when, where and with whatever frequency he or she needs that knowledge

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<sup>1</sup> Note: all figures are in US dollars

eLearning, especially web-based learning, can accomplish all of the above. With eLearning, organizations can offer their employees individualized learning programs that are directly linked to specific business needs, and to employee competencies. eLearning programs can assess performance effectiveness, measuring behavior changes and business impact. Results of learning programs can be communicated directly and immediately to participants and to supervisors.

## **eLearning and ROI**

All corporate training directly impacts profitability in at least three ways:

- 1) the costs associated with training - including direct costs such as staff, delivery systems, travel, per diems etc, opportunity costs
- 2) the costs associated with lost productivity during training time, and
- 3) the benefits that accrue to the organization as a result of formal training- including increase in productivity, decrease in returns etc.

Most traditional training ROI models assume a set of fixed cost categories that include:

- Needs assessment (prorated over shelf life)
- Design and development (prorated)
- Acquisition (prorated)
- Delivery (all subsections are expensed)
  - Salaries/benefits- facilitators
  - Salaries/benefits - coordination
  - Program materials and fees
  - Travel/lodging/meals
  - Facilities
  - Salaries/benefits - participants
  - Contact time
  - Travel time
  - Prep time
- Evaluation (prorated)
- Overhead/training and development (prorated)

(Phillips, 1997, p.139)

But, as the Alex Informatique (1998) points out, the "introduction of web-based training substantially alters the validity of this categorization."

For example, conventional training is delivered through seminars often lasting several days, while web-based training often occurs in JIT (just-in-time) sessions, in response to a current performance problem. There are not dedicated classrooms, training centres, travel expenditures needed. These cost categories become irrelevant. Moreover a video-enabled server that functions over the existing LAN or WAN could add substantial functionality to the existing corporate infrastructure, positively benefiting corporate operations. (Online paper available at [www.article19.com/portfolio/nimt/nimt.htm](http://www.article19.com/portfolio/nimt/nimt.htm))

## Costs associated with participants

Costs associated with employees as participants frequently represent more than 80% of the cost of a traditional training program (Head, 1994). Traditionally, this cost is arrived at by adding the participants' salaries (during the time they are taking training), together with lost opportunity costs (the value of the deduced productivity of each participant, and/or the value of the time lost due to absence from the workplace). Calculating this figure is further complicated if a temporary employee replaces the participant, where the salary of the temporary employee has to be adjusted (usually by a factor of between 1.2 and 1.5) to make up for their lower efficiency. If there is no replacement, then the participant's missing productivity must be calculated for the time they are absent due to training and travel.

Web based training minimizes costs associated with participants by:

- Reducing the time it takes for a participant to master content. Productivity losses are minimized together with lost opportunity costs. For example, with web-based learning, Andersen Consulting reported 60-70% less time was needed for training (Jerram, 1994). At CSX Transportation it was 50% less to master equivalent content (Trisram, 1995). The Los Angeles Department of Water and Power experienced a 50% reduction in training time (Piazza, 1995).
- Reducing the "training cycle time". Just-In-Time (JIT) training eliminates wasted time associated with waiting for an entire course to be offered in order to get one critical piece of information.
- Significantly reducing travel costs, costs of meals and lodging

For example:

Company XYZ decides to introduce a new product. To facilitate this XYZ company sends 500 participants on a 5 day course. These participants' average wages are \$20/hr (includes the cost of insurance and other benefits). The cost of sending these employees for 5 days of training, not including travel time, opportunity costs, or the costs of creating or purchasing and delivering the training are

$$500 \text{ people} \times \$20/\text{hr} \times 40\text{hrs} = \$400,000$$

A 40% reduction in time spent on training, with all else remaining equal, means a saving of \$160,000 in wages allocated to training. But the cost of actual wages can be small compared to the possible lost opportunity costs. For example, if XYZ Company takes a salesperson away from their sales activities for one day and the opportunity cost is \$10,000 in revenue, and if XYZ Company is realizing a 10% net income on revenue, then that company loses \$1,000 in profit each day the sales person is off.

If XYZ company sent its sales force of 500 on a 5 day training course, the lost opportunity costs would be \$2,500,000. Any decrease in training time reduces the lost opportunity cost. Reducing the time spent on training by 40% reduces the lost opportunity costs for savings of \$1,000,000.

By using eLearning rather than traditional classroom methods, XYZ Company can also significantly reduce the travel, lodging and entertainment costs that go along with traditional methods of training. Suppose XYZ Company sends its 500 salespeople to training site for a week. Assuming travel and entertainment expenses per employee who travels of \$1,000/week, the total travel and entertainment cost for a week of training is \$500,000. With eLearning the entire cost of travel, lodging and meals is eliminated.

Other traditional costs in delivering training have included Instructional Delivery Costs, Instructional Content Costs and Management Costs. These costs include overhead costs and the cost of equipment. All of these costs can be greatly reduced or eliminated altogether by giving employees access to eLearning at their desks or at shared, centrally located work stations.

With eLearning, significant savings are to be had in terms of the cost of trainers' in-classroom time.

For example:

If XYZ company pays a trainer a salary of \$40,000 annually, with additional employee costs of 25%, that trainer costs XYZ Company about \$920/week. If XYZ Company wishes to train its 500 sales personnel, for one week, in classes of 20, it will take 25 person/weeks to complete the assignment. During this period the trainer(s) will cost \$23,750 in salary and benefits. In order to deliver this training simultaneously to all salespeople, XYZ company will require 25 trainers sent out on 20 trips, at \$1,000/trip (5 trainers are already on site). Total travel cost is \$20,000.

eLearning eliminates these costs. One instructional designer could handle the entire sales staff, and training time for the sales staff would be reduced from 5 to 3 days.

It does cost more to build eLearning than it does to create classroom training - estimates are about \$4,000/hr for traditional training (to create lecture notes and slides/overheads) - compared to \$20,000/hr to \$40,000/hr for eLearning (the range reflects the fact that eLearning can range from text on a screen to full multimedia productions). And it does cost to install web-ready computers - about \$1,000 per system, although this cost may be a moot factor in most businesses where web-based computers already are in place. But both the course production and the hardware costs are amortized over a period of several years.

## **eLearning and Improved Performance**

Important to the ROI results as savings in instruction are, the most important training ROI results come as consequences of the nature of eLearning itself.

Good eLearning is faster than classroom training, making it cheaper to use in the long run. Second, studies have shown that people trained using interactive eLearning remember more of what they learn, remember it more accurately, for a longer period of time, and are better able to use what they learn to improve their job performances by 15-25% over traditional course delivery methods.

Hall (1995) reports on case studies from Intel, American airlines, Pacific Gas & Electric, IBM, Bethlehem steel, Bell South, Steelcase and Pizza Hut. The results of these case studies suggest

significant improvements in motivation of learners, ability to retain what they learn longer and more accurately. These findings are corroborated by Gregory Adams (1992) review of 6 case studies. Gregory Adams concludes that learning gains through CBT are up to 56%, while content retention is up 25-50% compared to conventional classroom training.

Cisco systems recently reported that the cost of on-line training was approximately 10% of the cost of instructor lead classroom training. The actual ROI for Web based training will vary from one corporation to another, as costs and requirements vary. But it is safe to say that the savings made by implementing Web based training when compared with classroom-based training are substantial. Barry (1998) explains why online education is a “multiplier that demonstrates the real value of electronic education”:

- the ability to deliver training locally
- the ability to deliver courses in hourly increments, matching the business volume shifts with training opportunities
- the ability to use tools that reduce the time needed to learn specific educational goals
- the ability to deliver "just in case" is training” (Barry, 1998, p. 109)

### **Beyond ROI – calculating the intangible**

As an accounting exercise, calculating ROI is relatively straightforward. But, as Barry (1998) notes, ROI analyses “rarely include the soft values of electronic education, including improved employee retention and the value of using a familiar work tool (personal computer) as a teaching tool.” (p. 108). Phillips (1997) extends this thought with a list of “intangible benefits” of all training. He contends that “for some programs, intangible, non-monetary benefits are extremely valuable, often carrying as much influence as the hard data items.” (p. 34). Intangible benefits include items such as:

- increased job satisfaction the line increased organizational commitment
- improved teamwork
- improved customer service
- reduced complaints, and
- reduced conflicts

Finally, the *effectiveness* of any educational program will determine the ultimate ROI. There is no point in focusing on the amount of money saved by a proposed eLearning solution if that solution does not produce real learning in the form of change of behaviour, level of knowledge or personal growth of the learners. This is not a function of instruction being online or in a classroom, but is a result of successful teaching strategies.

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