

A Comparative Study of E learning Cost Model & Face to Face Learning

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Humans are holding the biggest and most powerful empire over, seen on the earth. This is all due to the fact that they have ability to learn, develop and use their mental abilities. We live and work in a changing world. In today's global environment, for competitive advantage, organizations constantly strive more and more not only for data analysis but also for its environment and people involved with the organization. Learning and training is therefore not just important to ensure that we keep up-to-date with developments in our particular field. It is also an important source of motivation, stimulation and job satisfaction.

Key words: e learning, skill soft, cost benefit

E-learning commonly refers to computer based learning. It uses web-based training and teaching materials, CD-ROMS, Learning Management System (LMS), discussions boards, e-mails, and computer aided systems, simulation, online conferencing and other related methods.

Organizations are looking for low cost ways to train workforce. Out of the total cost associated in imparting training around 70% is spend on staff travel and accommodation and learning expenditure is only 25%-30%, which could be changed by use of e-learning.

Objective of paper: The paper aims at throwing light on the utility of e-learning solutions, especially its cost benefit. This is done by understanding various studies already conducted and studying the cost model to estimate ROI.

Benefits of e-Learning: There are many significant advantages for the student who learns online. Here are just few to consider:

Convenience and Portability

- Courses are accessible on your schedule
- Online learning does not require physical attendance
- Learning is self-paced (not too slow, not too fast)
- You're unbound by time - courses which are available 24/7
- You're unbound by place - study at home, work,

or on the road

- Read materials online or download them for reading later

Cost and Selection

- Choose from a wide range of courses to meet your needs
- Degree, Vocational, and Certificate programs
- Continuing Education
- Individual courses
- Wide range of prices to fit your budget
- Go back to school to get a degree, learn a new skill, learn a new craft, or just have fun
- From art to zoology you can do it all online in a price range to fit your budget

Flexibility

- Online learning accommodates your preferences and needs - it's student-centered
- Choose instructor-led or self-study courses
- Skip over material you already know and focus on topics you'd like to learn
- Use the tools best suited to your learning styles

Higher Retention

- Online learning will draw you to topics you like and enjoy. Studies show that because of this and variety of delivery methods used to reach different types of learners, retention is frequently better than in a traditional classroom.

Greater Collaboration

- Technology tools make collaboration among students much easier. As many projects involve

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collaborative learning, the online environment is far easier (and often more comfortable) to work in since learners don't have to be face-to-face.

Global Opportunities

- The global learning community is at your fingertips with online learning. The technologies used give online instructional designers the ability to build in tools that take you to resources you may never see in a traditional classroom.

Top trends in E-learning

- Corporate training budgets in United States increased on average by seven percent in 2006.
 - Economic growth in many regions is putting greater demands on training.
 - Concept of outsourcing of services is a result of new economics, emphasizes on strategic work of organization, demands lot of training.
 - 2005-2006 research show leadership development and management education is the largest single program area of spending in corporate training today.
- [Bersin & Associate research]
- Government deploys e-learning at all levels. In addition to the obvious business uses for e-learning, governments around the world have discovered that e-learning programs can dramatically improve the quality of life for citizens while reducing the financial burden on taxpayers.
 - E-Learning levels professional playing field around the world. Workers in niche industries once had to travel to specialized learning centers to discover the best practices in their field. Today, e-learning connects students in rural communities to urban experts, and vice versa.
 - E-learning programs help companies push new skills and critical improvements to line-level staff members quickly and efficiently, without the lag time of classroom or retreat-based training.

[Kevin Kruse]

The above facts reflect that corporate have understood the benefit of imparting training and development by using online model i.e. e-learning.

Learning organizations are cost centers

Like IT and marketing, learning organizations are cost centers. Historically, learning has been base upon a variable cost model. With such a model, costs are directly dependent upon number of employees trained. Whenever there is a shift in business model by introduction of IT tools, the calculation of return on investment become very important.

Shift to e-learning model is associated with major investment, finance and technology leaders must develop a return on investment model to justify the necessary expenditure on IT infrastructure.

However, with the advent of e-learning, learning in most companies is now based on a fixed plus variable cost model. This is because the use of e-learning requires up-front investments in technology, development tools, and content. These investments are fixed, no matter how many employees are trained. This model gives companies the ability to reach more employees and deliver more content for the same cost.

As a result of these new economics, learning organizations must reallocate resources. Delivery-based positions are being replaced with new positions in technology, content development, measurement, and support.

Because technology and sophisticated content development require specialized skills, learning organizations are relying more on outsourcing services to help meet these needs. By implementing an infrastructure that reaches many more employees at a far lower cost per hour, the training organization can selectively outsource areas which are not core to the company's expertise and focus.

Need of cost model:

The cost model help the organization evaluate the benefit of implementing e-learning solutions. This is generally based on calculating ROI.

About Skillsoft

SkillSoft, is a leading SaaS provider of on demand e-learning and performance support solutions for global enterprises, government, education and to small medium-sized business. SkillSoft enables business organizations to maximize business performance through a combination of comprehensive e-learning content.

online information resources, and flexible learning technologies and support services.

SkillSoft offers our customers experience and stability, dedicated customer focus and a strong commitment to learning innovation.

Benefits of Skillsoft

SkillSoft provides the most comprehensive and current content in the e-learning industry, supported by a flexible, scalable delivery platform. With our comprehensive and innovative offering, we're able to help our customers achieve sustainable and measurable business results.

Learning solutions

Our solutions are designed to support all levels of your business, whether you need training to meet strategic initiatives, or a just in time knowledge transfer. Our online training is used by hundreds of well-known companies. They rely on SkillSoft to provide high-quality, tailored training programs in a wide range of essential business and IT skills.

We make it possible for your staff to access training at any time and any place to suit their needs, using our SkillPort platform or our innovative KnowledgeCenter portals. This helps improve their commitment as well as their learning. Our courses can be hosted via our servers or on your intranet. Either way this allows you to offer effective training to your entire organization, customized to meet your specific requirements.

Why customers choose SkillSoft

3,000 companies and over 10 million end users rely on SkillSoft to provide high quality, tailored training programs in a wide range of essential business and IT skills. With SkillSoft your company gets:

- Effective instructional design to ensure knowledge transfer.
- Content that engages learners with a wide variety of rich, interactive learning options.
- Unique and authoritative learning resources, such as simulations, online books, book summaries, reports and video programs featuring well-known business leaders.
- All SkillSoft assets can be used as-is or

customized to meet unique organizational needs.

Cost savings on training with SkillSoft

Most companies are looking for ways to cut costs and eliminate travel wherever possible: But need is to make sure that the staff is well-trained on key technologies and skill sets. Cutting training simply isn't an option, but you may be wondering how you're going to pay for it.

Troubled times required new approaches. SkillSoft offers cost effective solutions that help's to ensure that staff has the most up-to-date knowledge on critical subjects, while significantly reducing the costs of classroom training. In fact, with SkillSoft's technology-enabled learning approaches you can save as much as 68 percent over traditional training methods.

SkillSoft offers e-learning courses and other just-in-time training assets in a wide variety of topic areas:

- Leadership Development
- Desktop Skills
- Project Management
- IT Certification

Not only can SkillSoft save money on classroom training and travel costs, the staff will have greater flexibility to complete their training on their schedule. Employees can choose from the following online, on-demand resources:

- Over 6,000 self-study e-learning courses
- Virtual instructor-led courses with world-class instructors
- Over 20,000 online books with Books24x7 collections
- Access to a team of mentors with over 1,000 certifications

One example of the savings expected

For a Project Management Professional training session from a national in-person classroom provider, compared to SkillSoft's offering, you can save an average of 40-60%.

Compared with self-paced e-learning the savings are even more impressive. And in either case, there is no travel expense or out-of-office time! Your learners appreciate the convenience and

quality, but your senior management will appreciate the cost savings even more.

Need to evaluate cost of e-learning solutions:

- To understand if work will increase.
- To calculate if it is more expensive than face-to-face teaching.
- To find out investment requirement.
- To decide the fee structure for online training
- To identify the market where it will have greater acceptance.

Factors influencing the costs of e-learning:

- Hours spent teaching and learning
- Number of students in a course
- Teacher: student ratios
- Use of tutors/adjunct faculty
- Method of course design / development / delivery
- Type of e-learning
- Institutional financial administration

Estimating costs of instructors: (for eg.)

- calculating salaries: cost per working day or hour:
- research professor: cost per day = salary/365, e.g. 100,000/365 = \$280
- working days: 200: teaching = 40%
- time teaching: 80 days over 4 courses
- time per course: 80/4 = 20 days
- cost per course per year = \$5,600

Key assumptions in costing e-learning:

- Time required for development.
- Time required for delivery.
- Instructor/learner ratio. Use/payment of tutors/adjuncts.
- Time taken by learners study per course or credit.
- Costs of alternative methods (face to face).

Example: fully online course:

Professor's time
 12 days for design/development (yr. 1)
 12 days for delivery (each year)
 3 days for maintenance (yrs 2-5)

F2F = 20 x 5 = 100 hours (Face to face)
 Online = 12 + (12 x 5 = 60) + (3 x 4 = 12)
 = 84 (but 4 more days yr 1)

Main costs:

Fixed expenditures

- Prior planning + overheads
- Programme coordinator
- Production costs
 - instructor + support staff time
 - media production
- Course maintenance (15-25%)
- IT investment (e.g. LMS, network)

Variable expenditures:

- Delivery (variable)
 - instructors + tutors/adjuncts
 - materials
 - support staff
 - student administration
 - software license fees (e.g. LMS)

Example of ROI Calculations:

Assuming a traditional classroom training plan that includes 500 trainees who each experience a week of training, travel for half of them (250 employees), the time constraint of a 3 month roll-out (5 trainers, 10 locations)-all compared to an equivalent eLearning scenario using very conservative assumptions, including an opportunity cost rate of \$400 per day.

	Classroom Training	E-Learning
Wages of Trainees (\$20/hr, burdened)	\$ 400,000	\$ 240,000
Travel Costs (50% of people traveling)	\$ 250,000	\$ -----
Trainer Wages	\$ 47,500	\$ 11,400
Trainer Travel	\$ 20,000	\$ -----
Development Costs (custom training)	\$ 160,000	\$ 400,000
Delivery Systems (1st year amortized)	\$ -----	\$ 35,000
Totals	\$877,500	\$686,400

These figures indicate that the eLearning approach, given conservative assumptions, saves approximately 20% in the first year of implementation. In the second and later years when development costs are not a factor for this course, the savings for eLearning grows to nearly 50%. In addition, the CBT or WBT can be rolled out in half the time, once developed.

The return-on-investment for eLearning can be 50%-60% greater than for traditional training, which itself can have a 4x ROI, if done properly.

Implementation and evaluation:

Measuring success: set targets

- Enrolments (new profile)
- Within budget
- Cost per student
- Quality assurance process
- Programme accreditation
- Benchmarking
- Student satisfaction
- Employer satisfaction
- Student performance (better or different learning outcomes)
- Increased revenues
- Training cost savings

COCOMO Model

One well-known parametric model is the Constructive Cost Model, or COCOMO, proposed by Dr Barry Boehm. It is an open model that publishes all of its assumptions and does not rely on any proprietary estimation algorithms. There are three COCOMO types - Basic, Intermediate and Detailed. They all estimate the effort required to develop software using a limited set of inputs such as Delivered Source Instructions (lines of code), effort adjustment factors, effort multipliers and development mode (Organic Mode, Semidetached Mode, or Embedded Mode). The model gets better over time as successive iterations calibrate the model.

SkillSoft made use ROI models mentioned above to justify its use by huge number of global organizations.

Studies showing cost benefit in use of e-learning:

- It was found and confirmed by many studies

(Fletcher-1990, Hall's- 1997), that computer based learning require significantly less time than instructor lead training. These studies indicate that the reduction in time ranged from 20-80% with 40-60% being the most common time saved.

- Studies by Fletcher (1990), Wright (1993) and Adams (1992) have found significant difference between e-learning and traditional class room instruction in terms of learning and cost benefit.
- A study by Bain Consultancy (Business Week, Aug. 1992) demonstrated that increasing customer retention by as little as 21% had the same effect on profits as cutting cost by 10%.
- Forman (1994) while summarizing the benefits of multimedia training cites several case studies that show an average gain of 10-15% in customer satisfaction and retention, following multimedia training in customer services skills..
- In a comprehensive study Forma (1994) reported that employees who received ongoing training work more efficiently than did their counterparts who received no ongoing training.
- Brandon Hall (1995) reviewed a number of studies on multimedia training and ROI. The studies involved such companies as Intel, American Airlines, Pacific Gas and Electric, IBM, Pizza Hut etc. In all the studies the result indicated significant increase in the quality of learning
- Numerous studies have shown that e-learning can cut the travel and entertainment cost associated with training by at least 50% (Hall 1997).
- A thorough review of the literature by McNamara (1999) found that on-going training significantly reduced employee turnover.

Conclusion

E-learning continued its evolution into a mainstream approach to corporate training. Almost every organization we talk with has some form of e-learning now available to their employees. Today a significant growth in the use of application simulations (made possible largely through low-cost, easy-to-use tools such as Captivate) and rapid e-learning (through the use of tools such as Adobe Connect, Articulate and others) is seen. There is also

tremendous growth in the use of online video (through Flash), business simulations and performance-support portals to complement e-learning programs. Webcasting continues to grow, with more than 10 different solution-providers offering low-cost, live e-learning tools.

While evaluating and building cost model for online solutions, measure of direct and indirect cost involved in the design, development, delivery, and maintenance of the program is most important. Because different industries have different ways of doing business, this process calls for some careful examination of how your organization goes about its daily work activities. So often, time is money. If you can more efficiently train employees then the time saved can be used for productive work. More work time is then translated into a financial benefit. E-learning, which offers widespread accessibility, a broad selection of training content and rapid delivery, requires a financial investment. As with any other investment, executive management demands that e-learning proves its value to the corporation. Yet, to date, there is no easy or straightforward way to calculate e-learning ROI.

Well constructed computer based training if employed appropriately, can yield significant improvement in learning and performance. This

positively affects ROI and significantly improves a corporation's competitive advantage.

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