

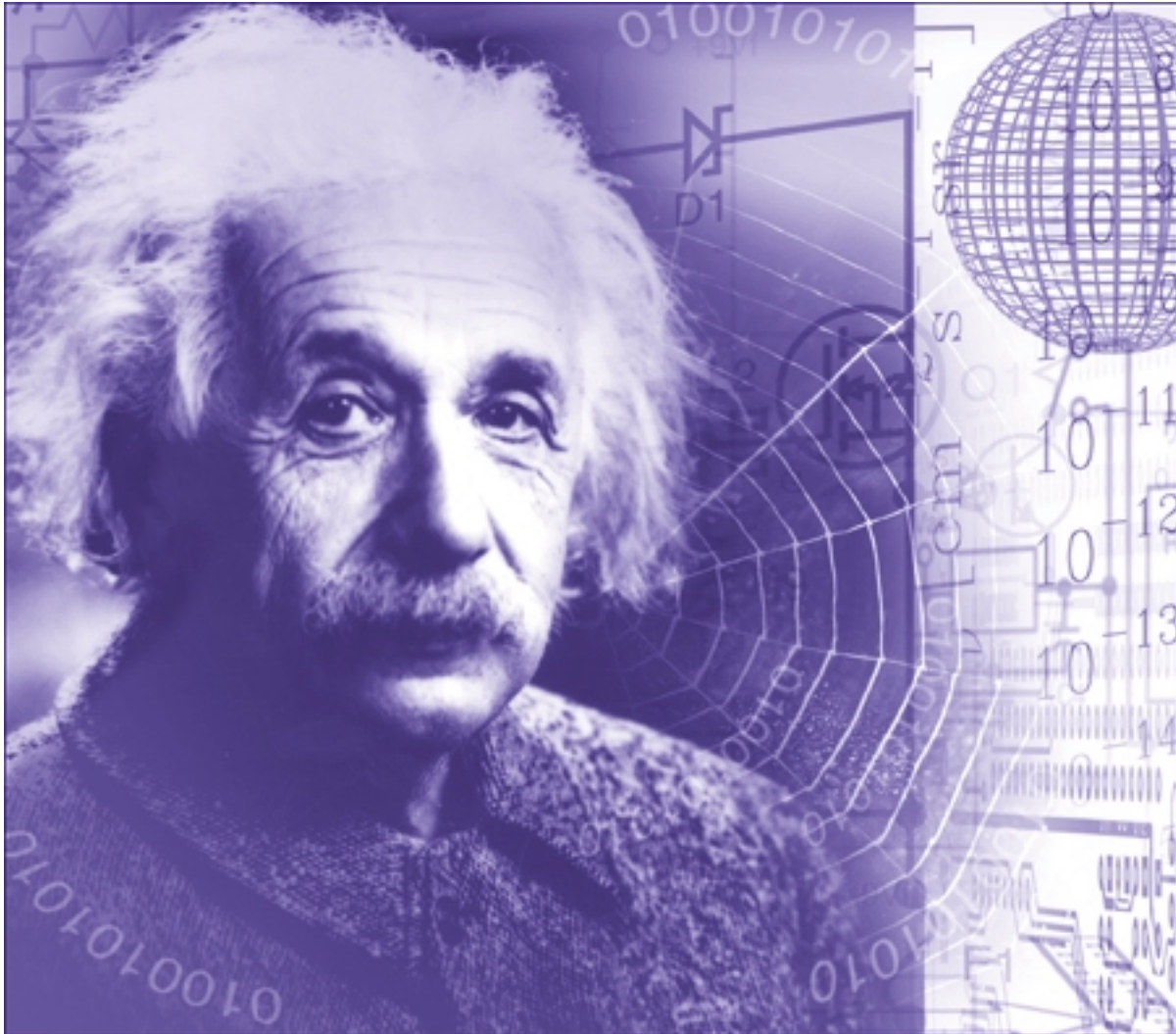
23 May 2000

Michael T. Moe, CFA
Director of Global Growth Research
(1) 415 676-3570
michael_moe@ml.com

Henry Blodget
Senior Internet Analyst, Global Coordinator
(1) 212 449-0773
henry_blodget@ml.com

The Knowledge Web

Part 4: Corporate e-Learning – Feeding Hungry Minds



Highlights:

\$300 Billion Market Catalyzed by the Internet
Continuous Learning Required by the New
Economy is Driving Huge and Rapidly
Growing Market

Knowledge Enterprises Group

Michael T. Moe, CFA
Director of Global Growth Research
(1) 415 676-3570
michael_moe@ml.com

Education Services

Kathleen Bailey
Vice President
(1) 415 676-3572
kathleen_bailey@ml.com

Neil Godsey
Assistant Vice President
(1) 415 676-3574
neil_godsey@ml.com

Michael B. Armstrong
Industry Analyst
(1) 415 676-3585
michael_armstrong@ml.com

Business & Employee Services

Thatcher Thompson
Director
(1) 212 449-8787
thatcher_thompson@ml.com

Chandy Smith
Assistant Vice President
(1) 212 449-0841
chandy_smith@ml.com

Global Internet Research

Henry Blodget
Senior Internet Analyst, Global Coordinator
(1) 212 449-0773
henry_blodget@ml.com

Kirsten Campbell
Assistant Vice President
(1) 212 449-3113
kirsten_campbell@ml.com

"Albert Einstein"™ Licensed by the Hebrew University of Jerusalem,
Represented by the Roger Richman Agency, Inc., Beverly Hills, CA 90212 www.albert-einstein.net

CONTENTS

■ Section	Page
Part 1: Introduction to the Knowledge Economy	3
1. <i>Executive Summary and Thesis</i>	9
2. <i>Price-to-Opportunity: The New Valuation Metric</i>	15
3. <i>The Four P's</i>	22
4. <i>Mind Over Matter: Human Capital in the Knowledge Economy</i>	31
5. <i>The Emerging New Economy</i>	36
6. <i>The Technology Revolution</i>	45
7. <i>e-Commerce: The Current e-Business Wave</i>	53
8. <i>Advertising Exploding Online</i>	56
9. <i>The Coming Bandwidth Tidal Wave</i>	60
10. <i>“Kingmakers” will Determine the Winners</i>	65
Part 2: Generation i <i>The K-12 Market</i>	75
11. <i>Generation i – @ Home, @ School, @ Play</i>	77
12. <i>Generation i – the K-12 Education Market</i>	78
13. <i>Kids with Clout: K-12 Marketplace is Huge</i>	84
14. <i>Investment Opportunity</i>	86
15. <i>Today's Children Are Web Savvy “Clickerati”</i>	87
16. <i>K-12 Education Is Ripe for a R*e*volution</i>	96
17. <i>The K-12 E-Education Landscape</i>	106
18. <i>Linking Homes and Schools – The Next Online Land Grab For e-Portals & Hubs</i>	107
19. <i>Learning Redefined – Content Goes Digital</i>	115
20. <i>e-Commerce</i>	125

■ Section	Page
21. <i>Infrastructure</i>	131
22. <i>Supplemental Services</i>	143
23. <i>Issues in K-12 e-Learning</i>	149
24. <i>The Empire Strikes Back? Publishing & Media Companies vs. Web Upstarts</i>	153
25. <i>Appendix 1</i>	165
Part 3: Higher Web – Universities Online	167
26. <i>Higher Web – Universities Online</i>	169
27. <i>The World Wide Web of Higher Education</i>	170
28. <i>The Market Opportunity</i>	178
29. <i>The Global Opportunity</i>	181
30. <i>Infrastructure – “Webifying” the University</i>	184
31. <i>Community and Commerce</i>	193
32. <i>E-Hubs – All Roads Lead to the E-Hub</i>	201
33. <i>Universities Online</i>	207
34. <i>The Corporate Market Opportunity</i>	216
35. <i>Appendix 2</i>	223
Part 4: Corporate e-Learning – Feeding Hungry Minds	225
36. <i>Corporate e-Learning: Feeding Hungry Minds</i>	227
37. <i>Corporate e-Learning</i>	228
38. <i>Size of the Market</i>	236
39. <i>The Corporate e-Learning “Net-scape”</i>	242
40. <i>Content</i>	261
41. <i>Assessment</i>	273

■ Section	Page
Part 5: Human Capital Management – People Power	291
42. <i>Human Capital Management: People Power</i>	293
43. <i>Trends & Predictions</i>	294
44. <i>Human Capital Management</i>	296
45. <i>Countering the “Brain Drain”</i>	298
46. <i>The Industry “Net-Scape”</i>	301
47. <i>The Net Shakes Up Human Capital Management</i>	308
48. <i>The Human Capital Management Landscape</i>	314
49. <i>Investable Themes</i>	322
50. <i>Select Company Profiles</i>	323
51. <i>Appendix 3</i>	352

This Page Left Intentionally Blank

Corporate e-Learning – Feeding Hungry Minds

This Page Left Intentionally Blank

36. Corporate e-Learning: Feeding Hungry Minds







Corporate e-Learning Market Statistics

Addressable Global Market Size: \$300 Billion U.S. Corp. e-Learning Market Size 1999E: \$1.1 Billion U.S. Corp. e-Learning Market Size 2003E: \$11.4 Billion U.S. Corporate e-Learning CAGR 1999E-2003E: 79%																			
<p style="text-align: center;">Public Companies Profiled</p> click2learn.com (CLKS, Formerly Asymetrix) DigitalThink (DTHK) Learning Tree (LTRE) Provant (POVT) Saba Software (SABA) SmartForce (SMTF) Smartplanet.com (division of Ziff Davis)																			
<p style="text-align: center;">Private Companies Profiled</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Acadio</td> <td style="width: 50%; border: none;">Brainbench</td> </tr> <tr> <td style="border: none;">CBM Tech. (TEDS)</td> <td style="border: none;">Docent</td> </tr> <tr> <td style="border: none;">EMind.com</td> <td style="border: none;">Englishtown.com</td> </tr> <tr> <td style="border: none;">GlobalEnglish.com</td> <td style="border: none;">Headlight.com</td> </tr> <tr> <td style="border: none;">Hungry Minds</td> <td style="border: none;">KeepSmart.com</td> </tr> <tr> <td style="border: none;">KnowledgePlanet</td> <td style="border: none;">Ninth House</td> </tr> <tr> <td style="border: none;">NotHarvard.com</td> <td style="border: none;">Pensare</td> </tr> <tr> <td style="border: none;">PlanetLingo.com</td> <td style="border: none;">Thomson Learning</td> </tr> <tr> <td style="border: none;">Trainingnet.com</td> <td></td> </tr> </table>		Acadio	Brainbench	CBM Tech. (TEDS)	Docent	EMind.com	Englishtown.com	GlobalEnglish.com	Headlight.com	Hungry Minds	KeepSmart.com	KnowledgePlanet	Ninth House	NotHarvard.com	Pensare	PlanetLingo.com	Thomson Learning	Trainingnet.com	
Acadio	Brainbench																		
CBM Tech. (TEDS)	Docent																		
EMind.com	Englishtown.com																		
GlobalEnglish.com	Headlight.com																		
Hungry Minds	KeepSmart.com																		
KnowledgePlanet	Ninth House																		
NotHarvard.com	Pensare																		
PlanetLingo.com	Thomson Learning																		
Trainingnet.com																			

Fast Facts

- The global corporate and government learning market is huge, measuring approximately \$300 billion this year and is expected to grow to \$365 billion by 2003.
- Total technology-delivered learning is projected to grow rapidly, from \$3.0 billion in 1998 to \$8.2 billion in 2001, an annual growth rate of nearly 40%.
- Web-based corporate learning is expected to enjoy explosive growth, measuring \$11.4 billion by 2003, up from \$550 million in 1998, representing a CAGR of 83%.
- Eleven percent, or 55, of the Fortune 500 have a Chief Knowledge Officer today, up from virtually none five years ago.
- Motorola calculates that every \$1 it spends on corporate learning translates into \$30 in productivity gains within three years.
- Skilled labor is expected to represent 85% of all jobs in 2005, up from 20% in 1950.
- Currently, it's been estimated that 50% of employees' skills become outdated within 3 to 5 years.
- Seventy percent of CEOs cite finding and retaining skilled employees as a serious problem.

Megatrends Shaping the Corporate E-Learning Industry

	Trend	Impact
	Demographics	In an economy with 4.0% unemployment, an under-degreed adult population and 85% of new jobs created requiring higher skills by 2005, corporate learning has never been more important. To serve the new needs of the workforce of the 21st century, we are seeing the emergence of a new paradigm for corporate learning – online learning. Accessible around-the-clock, online learning gives employees access to learning where they want it, when they need it.
	Technology	We are in a new era driven by access, information, convenience and speed, all brought on by the advent of the Internet. Moore's Law is alive and well, making change a constant.
	Globalization	The Internet creates one market, one economy. Approximately 30% of the S&P 500 earnings come from outside of the United States. In today's global knowledge-based economy, corporations need consistent, multi-lingual education that is accessible anywhere, anytime.
	Branding	Brands are everything in knowledge services and on the Internet. We believe companies will rely on brand-name providers with a global presence to serve their e-learning needs.
	Consolidation	The highly fragmented corporate learning industry is made up of thousands of "mom and pop" shops. Many companies that began as niche players are rapidly acquiring content and technology companies to "fill in the holes" in the areas where they are lacking.
	Outsourcing	The mandate for corporations is to focus on core competencies and outsource the rest. Currently, 25% of corporate learning is being outsourced. As companies focus on core competencies and increasingly view corporate learning as an investment, the rate of outsourcing will only accelerate.

37. Corporate e-Learning

“Education over the Internet is going to be so big it is going to make e-mail usage look like a rounding error.”

– John Chambers, CEO, Cisco Systems

The new economy moves at a pace never seen before. e-Commerce has forced even traditional businesses to operate at Internet speed.

The new economy moves at a pace never seen before. The Internet has radically changed the way we do business, driving rapid change in the demands on human capital. e-Commerce has forced even traditional businesses to operate at Internet speed. The workforce is presented with an unprecedented challenge, as it must now gain and continuously upgrade its skills.

A half century ago, a man could learn how to drive a tractor and have that job skill remain useful for 40 years or more. Today, a person learns a software program and has that skill current for, maybe, 18 months. There are several trends fueling the growth of corporate learning as well as driving the rapid adoption of online learning:

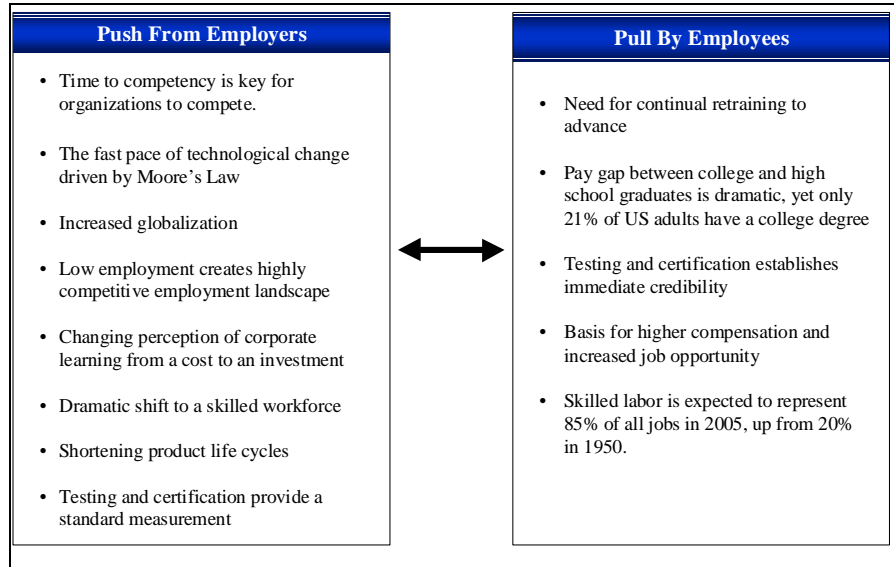
- Dramatic Shift to a Skilled Workforce
- Widening Wage Gap Between High School and College Graduates
- The Fast Pace of Technological Change
- Shortening Product Life Cycles
- Increased Globalization
- Skills Shortage
- Changing Perception of Corporate Learning from a Cost to an Investment

Time-to-competency is key for organizations to compete.

We are in a new era driven by access, information, convenience and speed, all brought on by the advent of the Internet. Time-to-competency is key for organizations to compete. An old solution was simply to replace workers with obsolete skills with those possessing the right skill set. However, in a 4% unemployment economy with one of five IT jobs going unfilled, the real world option isn't to find new people with the right skill set (good luck), but to provide learning continuously for existing employees.

“In three years, every product my company makes will be obsolete. The only question is whether we'll make them obsolete or somebody else will.”

*– Bill Gates
Business @ the Speed of Thought*

“Push & Pull” Forces Create Opportunity


Source: Merrill Lynch Global Growth Group

The four engines of the new economy – computers, telecommunications, health care and instrumentation – employ approximately 50 knowledge workers per 100 employees and are growing.

Integrating quality educational content with testing/assessment and certification programs is the new learning paradigm for the 21st century. The four engines of the new economy – computers, telecommunications, health care and instrumentation – employ approximately 50 knowledge workers per 100 employees and are growing. These technology-intensive industries are growing 3-6 times as fast as economy-wide job growth. The “push” from employers demanding relevant skills and the “pull” from employees seeking better jobs or keeping the one they have has created a fertile growth environment for online learning companies that can provide cost-effective solutions to address the growing knowledge crisis within their organizations.

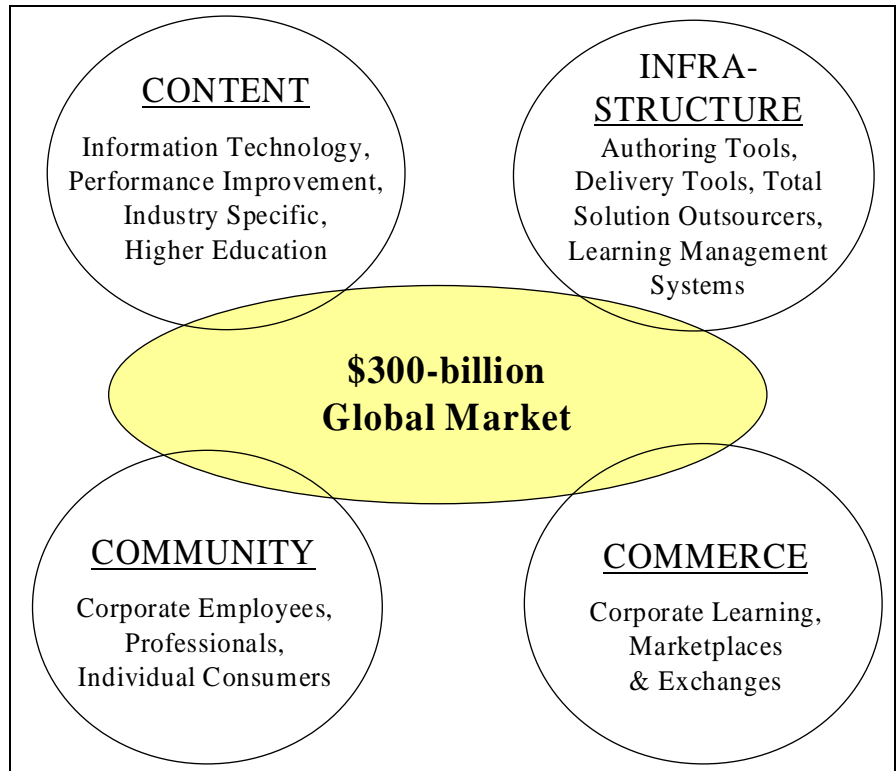
“The person who figures out how to harness the collective genius of the people in his or her organization is going to blow the competition away.”

– Walter Wriston, former CEO of Citibank

Assessment is the currency to value skills in the knowledge economy.

Corporate learning is a transition from “seat time” and “credits” as a means toward earning degrees and certifications to demonstration of competence as measured by valid and reliable test assessments. Similarly, demonstration of work-related competencies, particularly in technology-related professions, is becoming the key criteria for getting or maintaining a job or promotion. The 1999 ASTD (American Society of Training and Development) study of corporate training directors found the number one criteria for choosing a learning provider was the ability to prove that learning occurred and productivity improved as a result of the learning investment – or, in other words, tangible ROI. As such, assessment is the currency to value skills in the knowledge economy.

Corporate e-Learning “Net-Scape”



Source: Merrill Lynch Global Growth Group

Dislocation caused by the Internet economy, coupled with the speed of change, has created an incredible need to provide knowledge instantaneously.

Dislocation caused by the Internet economy, coupled with the speed of change, has created an incredible need to provide knowledge instantaneously. Technological innovations, such as the Internet, video-conferencing and satellite systems, have transformed not only what we learn, but also how we learn. In the old economy, businesses were able to get by with general and generic corporate learning programs for a large, stable workforce. In the new economy, businesses need personalized and constantly changing corporate learning. Corporate learning was once viewed as a cost, and courses were “just-in-case.” In the new economy, corporate learning is a career-long necessity that employees, who know that in today’s economy their earnings power rises with knowledge, are eager to use as a tool for career advancement. Courses are delivered “just-in-time” anywhere, anyplace and anytime.

In the new economy, businesses need personalized and constantly changing corporate learning.

New View of Corporate Learning in Our Knowledge-Based Economy

<u>Old Economy</u>	<u>New Economy</u>
Four-Year Degree	Forty-Year Degree
Training As Cost Center	Learning as #1 Source of Competitive Advantage
Learner Mobility	Content Mobility
Distance Education	Distributed Learning
Resume	Competency
One Size Fits All	Tailored Programs
Geographic Institutions	Brand Name Universities & Celebrity Professors
Just-in-Case	Just-in-Time
Isolated	Virtual Learning Communities

Source: Merrill Lynch Global Growth Group

The problem is that today’s corporate learning solutions only partially solve an organization’s needs. They are:

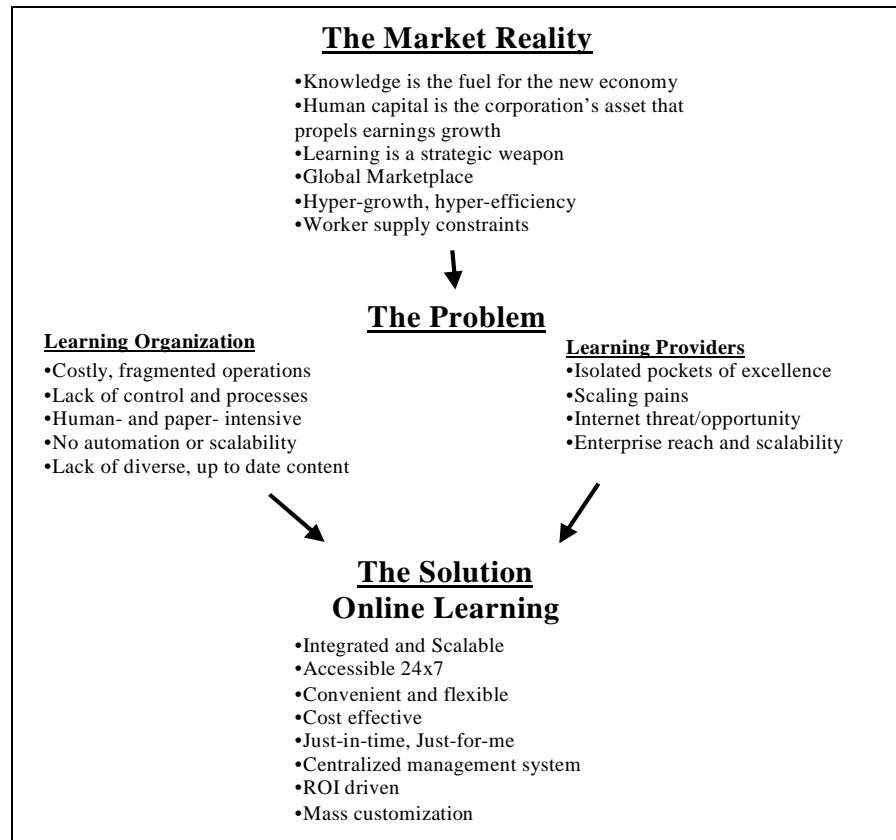
- Difficult to deploy across an organization
- Difficult to customize and update
- Difficult to track and monitor learning effectiveness
- Lacking control and processes
- Lacking diverse, up to date content
- Lacking the ability to calculate ROI
- Human- and paper-intensive
- Lacking automation or scalability
- Costly and fragmented

“I don’t have to know everything, I just have to know where to find it when I need it.”

– Albert Einstein

Web-based corporate learning is expected to enjoy explosive growth, measuring \$11.4 by 2003, up from \$1.1 billion in 1999, representing a CAGR of 79%.

The Online Learning Solution

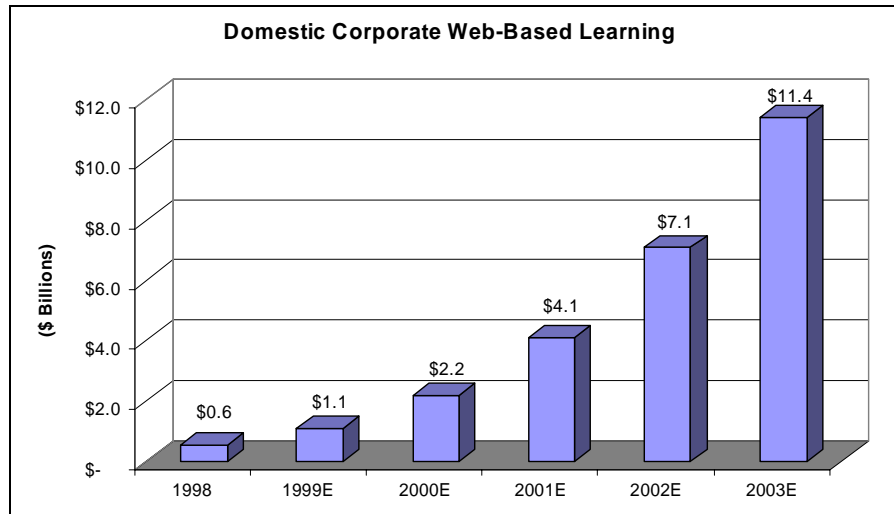


Source: Merrill Lynch Global Growth Group

The combination of tremendous demand for effective and ongoing learning from corporations and knowledge workers and the potential solution that online learning provides creates enormous growth opportunities for companies that can effectively marry learning, technology and commerce. IDC projects that U.S. Web-based corporate learning is expected to enjoy explosive growth, measuring \$11.4 by 2003, up from \$1.1 billion in 1999, representing a CAGR of 79%.

Anytime, anywhere learning can greatly increase student retention and satisfaction.

Corporate e-Learning Projected to Enjoy Explosive Growth



Source: IDC

The growth in Internet-delivered learning is driven by both compelling economics and the potential for more effective education. The Internet reduces the cost of learning, both direct and indirect, and increases its relevance and retention. In addition, it enables learning programs to be customized and tailored for individual employees and facilitates knowledge management by providing the means to collect and re-deploy knowledge more efficiently throughout the organization. Whereas employees once had to congregate in one location to receive corporate learning, sometimes flying in from around the country or even the globe, the corporate learning can now come to them. Anytime, anywhere learning can greatly increase student retention and satisfaction.

As much as 40 cents of every dollar spent on in-person corporate learning is eaten up by travel costs.

“If investments in factories were the most important investments in the industrial age, the most important investments in the information age are surely investments in the human brain.”

*– Lawrence Summers
U.S. Treasury Secretary*

Online learning has several significant benefits:

- **24 Hours a Day/7 Days a Week:** The most obvious benefit of online learning is convenience. Employees can access learning 24 hours a day, 7 days a week, around their work, family and personal schedule. No longer do employees need to take time away from their busy workweek to sit through a day of corporate learning or travel to the other side of the country for training. Moreover, instead of waiting for the next scheduled seminar, employees can access learning instantaneously when and where they need it.
- **Tremendous costs savings:** As much as 40 cents of every dollar spent on in-person corporate learning is eaten up by travel costs. Brandon Hall, a well-recognized industry expert, believes that companies experience 40-60% cost savings when comparing instructor-led courses with technology-delivered courses. Bill Raduchel, Chief Strategy Officer for Sun Microsystems, believes that at the beginning of this decade, it cost \$300 per hour of instruction using the traditional classroom for delivery (not including course development). By 2005, Raduchel predicts, the same hour will cost \$0.03 when delivered through technology, an astonishing four orders of magnitude difference.

Companies experience 40-60% cost savings when comparing instructor-led courses with technology-delivered courses.

Compelling Economic Benefits of Online Learning

Reduced costs per class . . .

- Three years ago it cost Novell \$1,800 for a four day certification course that now costs \$700-900 over the web. This comparison doesn't even capture the costs of the employee's travel, lodging and time away from job.
- The cost of a Cisco Systems instructor-led course is \$1,200-\$1,800, compared to only \$120 over the web.

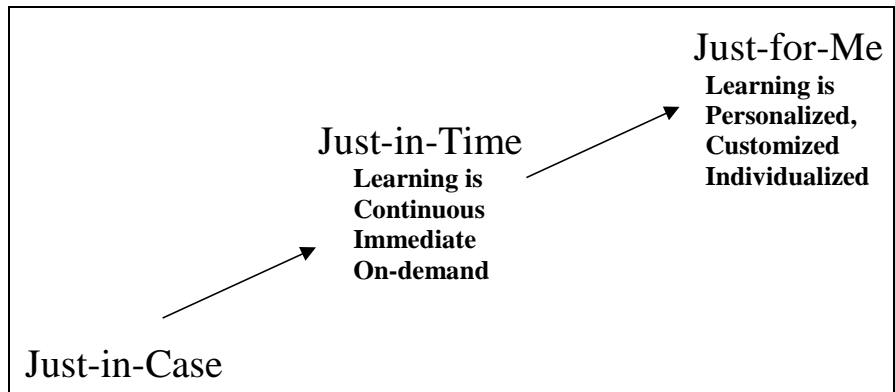
Equates to tremendous savings . . .

- Hewlett Packard saved \$150,000 in outside testing costs alone through online learning.
 - The FBI's National Security Division saved \$2 million when it developed a distance-learning course to replace one full week of training at the FBI academy.
-

Source: Asymetrix Learning Systems

Studies have indicated that retention of certain subject matter may be up to 250% greater with e-learning than with the classroom-based model.

- **Just-in-time learning** – One of the biggest benefits of online learning is that it delivers learning “just-in-time,” at the moment an employee needs that information. In our view, this is far superior to attending hours of classes “just-in-case” the materials are needed at some point in the future. The immediacy of online learning drives retention of information that is frequently far superior to traditional forms of corporate learning. Studies have indicated that retention of certain subject matter may be up to 250% greater with e-learning than with the classroom-based model.
- **Just-for-me learning** – One of technology's strengths is the ability to create a customized corporate learning program designed specifically for that individual, structured to cover only the materials he or she needs on a scalable basis. This highly customized form of corporate learning enables the organization to assess individual and group needs, and tailor the learning to specifically address individual needs based on interests, career objectives and job profiles.

Benefits of Online Learning


Source: Merrill Lynch Global Growth Group

Learning management systems provide corporations with the ability to track and manage the learning that occurs within an organization and for the extended enterprise.

- **Centralized Knowledge Management:** Corporations need a system that will allow them to know who is participating in what type of corporate learning, when, where and why. If you can't measure it, you can't manage it. One of the strengths of technology is its ability to collect and interpret large amounts of information. Learning management systems provide corporations with the ability to track and manage the learning that occurs within an organization and for the extended enterprise, with such features as employee registration and pre-, during and post testing across the entire spectrum of offered courses. More importantly, learning management systems enable companies to measure their learning's effectiveness, competency, impact on business objectives and profitability. Similar to a doctor with a medical chart, learning management systems allow corporations to know what individuals know and

don't know, when an employee completed a course, how they performed and their level of improvement. The organization that can link corporate learning and performance has created a powerful competitive asset, which is why we believe e-learning solutions sit at the top of the enterprise software value chain.

The value proposition of e-learning extends beyond employees. We see significant opportunity to use e-learning to educate external parties that are central to a company's success such as customers, suppliers and partners – the extended enterprise.

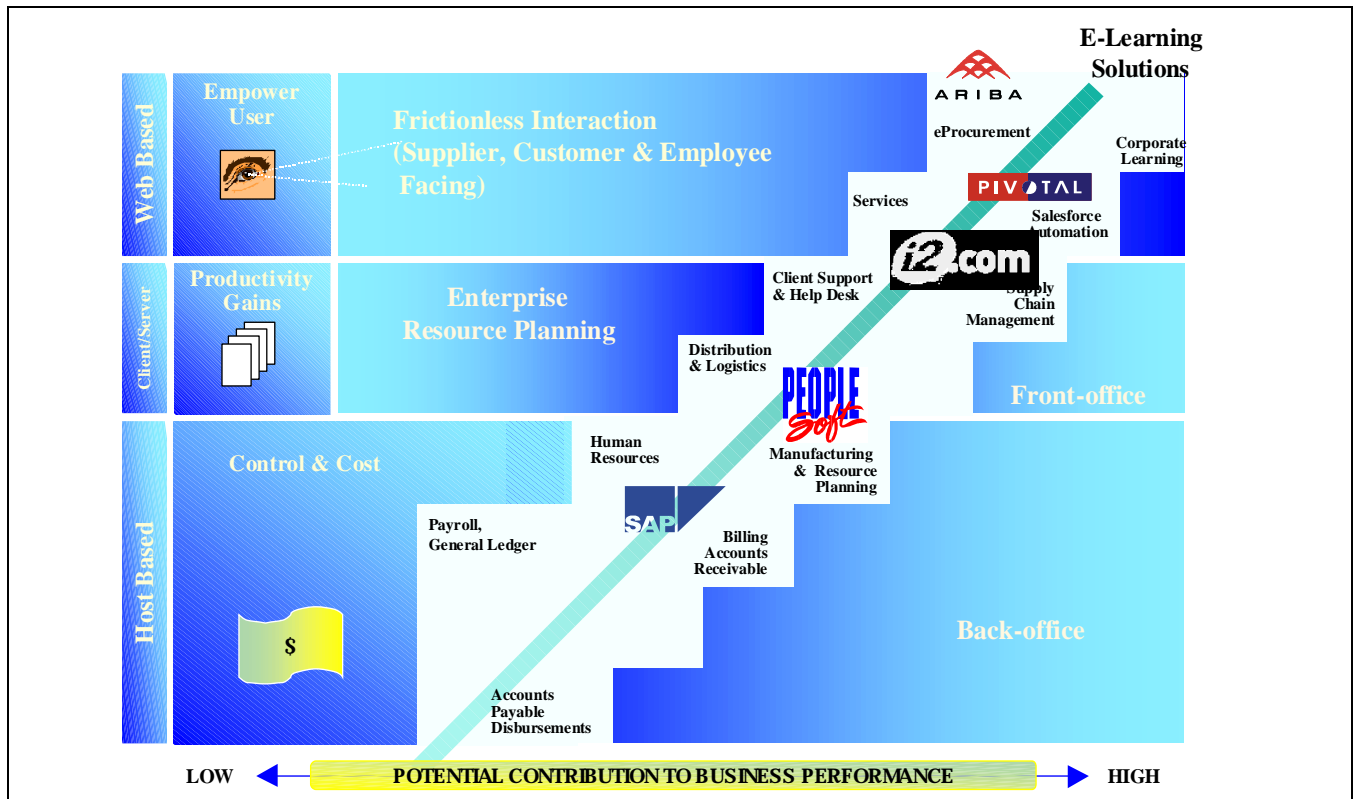
Benefits of Online Learning Versus the Classroom

	Classroom	Online Learning
Access	Limited	24 X 7
Quality	Varied	Consistent
Results Measurement	Difficult	Automatic
Retention of Information	Varied	High
Relative Cost	High	Low

Source: Asymetrix Learning Network

The value proposition of e-learning extends beyond employees. We see significant opportunity to use e-learning to educate external parties that are central to a company's success such as customers, suppliers and partners – the extended enterprise.

Enterprise Software Value Chain



Source: Merrill Lynch Global Growth Group

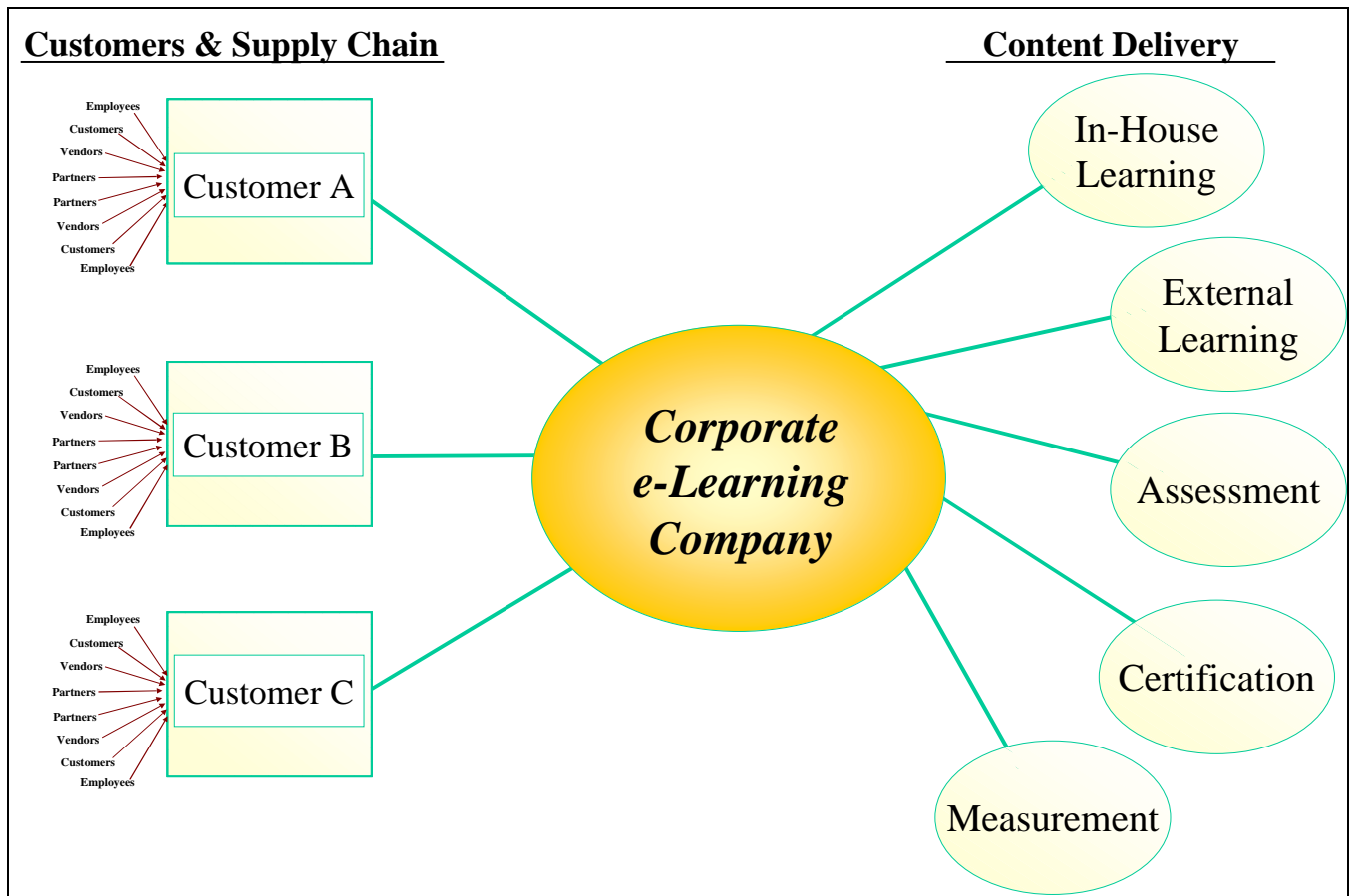
As in any situation, the more knowledgeable one is of a product or service, the more effective one will be at carrying out their responsibilities. The Internet allows corporations to disseminate information quickly and cost effectively, thus ensuring that customers, suppliers and partners will be equipped with the most up-to-date information. The more individuals and parties there are on the network, the more powerful the network becomes, as Metcalfe’s Law dictates.

- **Customers** will be more informed about products and services, enabling them to make more educated (and a potentially increased number of) purchasing decisions.
- **Suppliers** will be equipped with a better understanding of their client’s needs, allowing for better service.
- **Partners** will gain additional insight into their affiliates, enabling them to work with them more efficiently and effectively.

“You live and learn...or you don’t live long.”

– Robert Heinlein

The e-Learning Network Effect



Source: Merrill Lynch Global Growth Group

38. Size of the Market

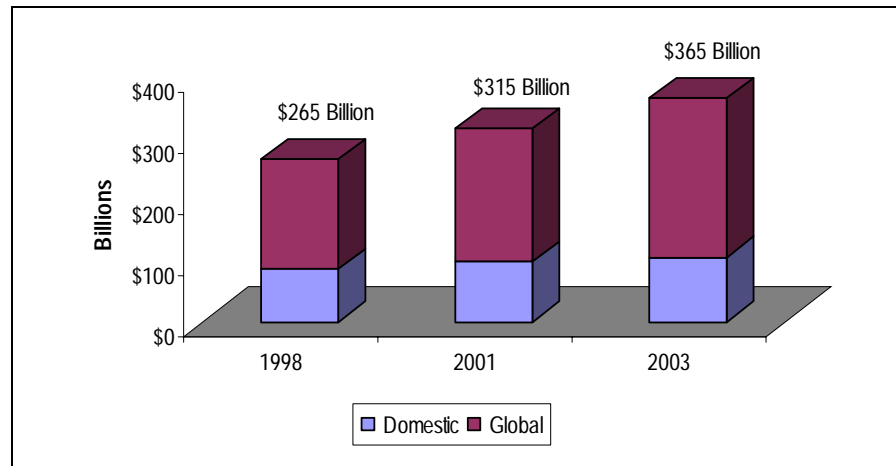
Corporations are struggling to reinvent themselves in the face of structural change in our economy – an economy that is increasingly shifting rewards to service and technology companies made up of “knowledge workers.” Not surprisingly, improving the education levels of employees has become mission-critical.

The push from employers who need a more educated workforce, combined with the pull from employees who need to get paid has created an environment in which both parties are increasingly realizing that learning is a lifelong process that no longer stops after graduation from high school or college. In today’s knowledge-based economy, a four-year degree is just a prerequisite to participating in the industries of the future.

Consequently, employers in the new economy are spending tens of billions of dollars to increase employee skill levels, offering everything from remedial education to job corporate learning to executive education. The global corporate and government learning market is enormous, measuring over \$280 billion for 1999 and is expected to grow to over \$365 billion by 2003.

The global corporate learning market is enormous, measuring over \$280 billion for 1999 and is expected to grow to over \$365 billion by 2003.

Large and Growing Global Corporate Learning Market



Source: IDC, Merrill Lynch Global Growth Group

By the year 2005, we expect the shift from unskilled labor to skilled labor to become even greater, representing 85% of all jobs.

As we move towards a more automated society, human labor is being displaced by advanced technology, creating the need for higher skilled employees. In 1950, unskilled jobs constituted 60% of all jobs, and professional and skilled jobs each represented 20% of all jobs. In 1991, the percentage of unskilled jobs decreased to 35% while the percentage of skilled jobs increased to 45%. By the year 2005, we expect the shift from unskilled labor to skilled labor to become even greater, representing 85% of all jobs.

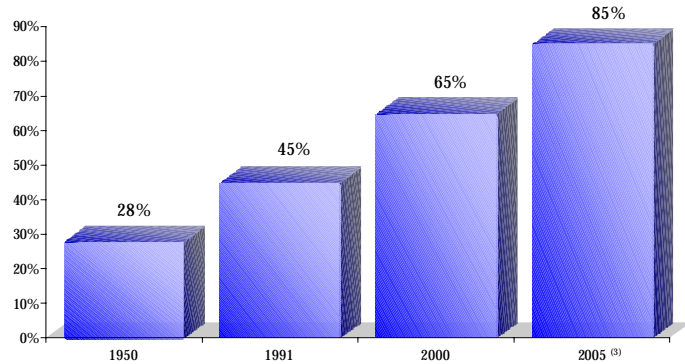
“It’s what you learn after you know it all that counts.”

– John Wooden

Corporate Learning: Need for Skilled Workers ⁽¹⁾

70% of surveyed CEOs say they face serious problems finding skilled, experienced workers ⁽²⁾

% of Jobs Requiring Skilled Workers



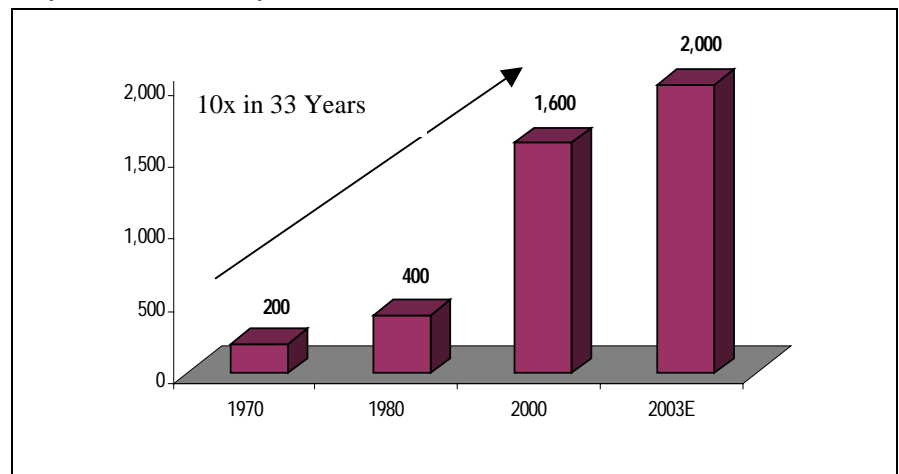
(1) U.S. Bureau of Labor Statistics.
 (2) Coopers & Lybrand "Trendsetter Barometer" survey.
 (3) Merrill Lynch and U.S. Bureau of Labor Statistics.

Forty percent of the Fortune 500 companies have implemented a corporate university.

The reality for businesses today is that to be competitive, a strategic corporate learning plan is vital. The learning needs of the knowledge economy, coupled with the current system's inability to satisfy those needs, provide nimble e-learning companies with a fertile environment and an open-ended growth opportunity.

Illustrating the heightened profile and importance of corporate learning is the rising number of corporate "universities." Corporate universities are formalized corporate learning programs that cut across all company divisions. There are over 1,600 corporate universities, up from only 400 in 1988. To put this figure in perspective, there are currently approximately 3,700 postsecondary institutions in the United States. Forty percent of the Fortune 500 companies have implemented a corporate university.

Corporate Universities Up Tenfold

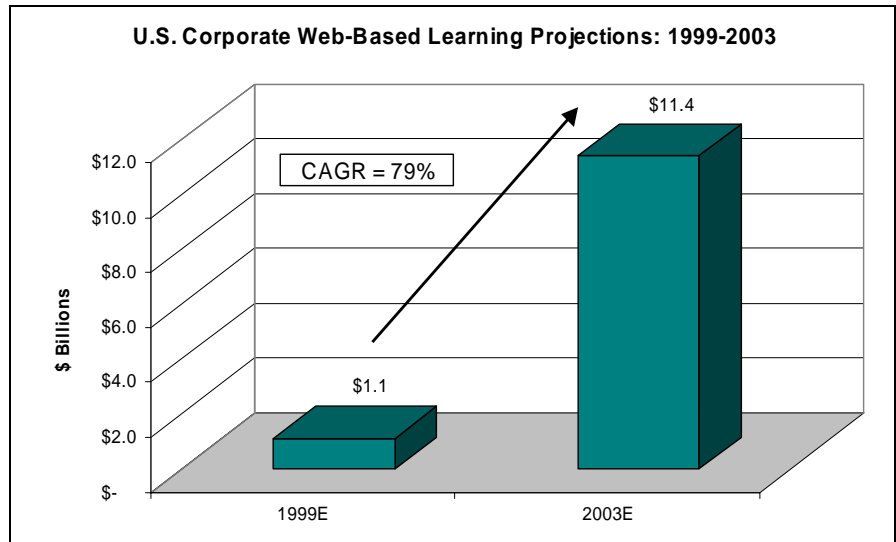


By the year 2003 expectations are for approximately 2,000 corporate universities, up tenfold from only 200 in 1970

Source: Corporate University Xchange, Inc.

The technology fueling our economy and driving our need for lifelong education and corporate learning is also transforming how we deliver that learning. Corporations have strongly embraced the use of technology for corporate learning. Web-based corporate learning is a rapidly growing component of technology-based corporate learning, expected to increase from \$1.1 billion in 1999 to \$11.4 billion by 2003, representing an explosive annual growth rate of 79%.

Web-Based Corporate Learning Expected to Experience Explosive Growth



Source: IDC

The total corporate e-learning opportunity in the U.S. is approximately \$1.1 billion in 1999 growing to \$11.4 billion by 2003.

We emphasize that the online market opportunity is significantly larger than the IDC figures presented in the graph above. The Internet creates one market, meaning the e-learning opportunity is global, not domestic. Combining the international corporate and government e-learning opportunity would significantly increase the total market opportunity.

Combining the international corporate and government e-learning opportunity would significantly increase the total market opportunity.

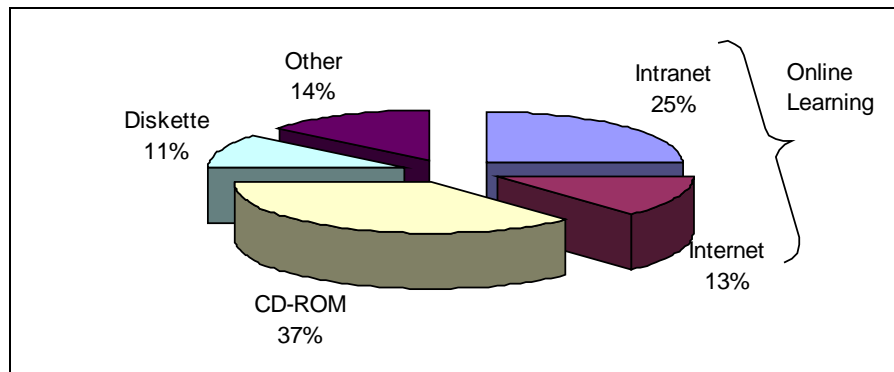
Corporate Learning Market Estimates

Market Segment	2000E Addressable Global Market	U.S. Online Market Size		CAGR: 1999E-2003E
		1999E	2003E	
Content		\$0.7 billion	\$6.2 billion	73%
Learning Services		\$0.2 billion	\$4.1 billion	113%
Delivery Solutions		\$0.2 billion	\$1.1 billion	53%
Total Corporate Learning	\$300 billion*	\$1.1 billion	\$11.4 billion	79%

Source: IDC, "The U.S. Corporate e-Learning Market Forecast, 1998-2003," January 2000; Merrill Lynch Global Growth Group

* Figure includes government learning market, as well.

We expect companies to adopt a combination of corporate learning delivery technologies. Delivery alternatives available today are graduating from CD-ROM and videotape to one-way and interactive satellite video broadcast, the Internet, intranets/extranets, web-based collaborative learning tools, electronic performance support systems, multicasting video and others. Most companies will elect to use a combination of these technologies, leveraging the strengths of each to deliver different types of corporate learning to different audiences. The following chart represents computer-delivered corporate learning options and their current market shares.

Delivery Media of Technology-Delivered Corporate Learning (1999)


Source: Training Magazine

The market share of U.S. instructor-led corporate IT learning is expected to decrease to 51% in 2003, down from 71% today.

IT corporate learning, in particular, lends itself to technology-based instructional methods, and accordingly is expected to be one of the fastest sectors to adopt online learning. Currently, classroom-led instruction dominates the U.S. IT corporate learning market in dollar terms, capturing \$6.7 billion in 1999, or 71% of the market. However, technology-based corporate learning, estimated to grow annually at 33%, is expected to quickly gain market share. According to IDC, the market share of U.S. instructor-led corporate IT learning is expected to decrease to 51% in 2003, down from 71% today. Technology-based corporate learning is forecasted to capture a 46% share of the U.S. IT corporate learning market by 2003, up from 24% in 1999.

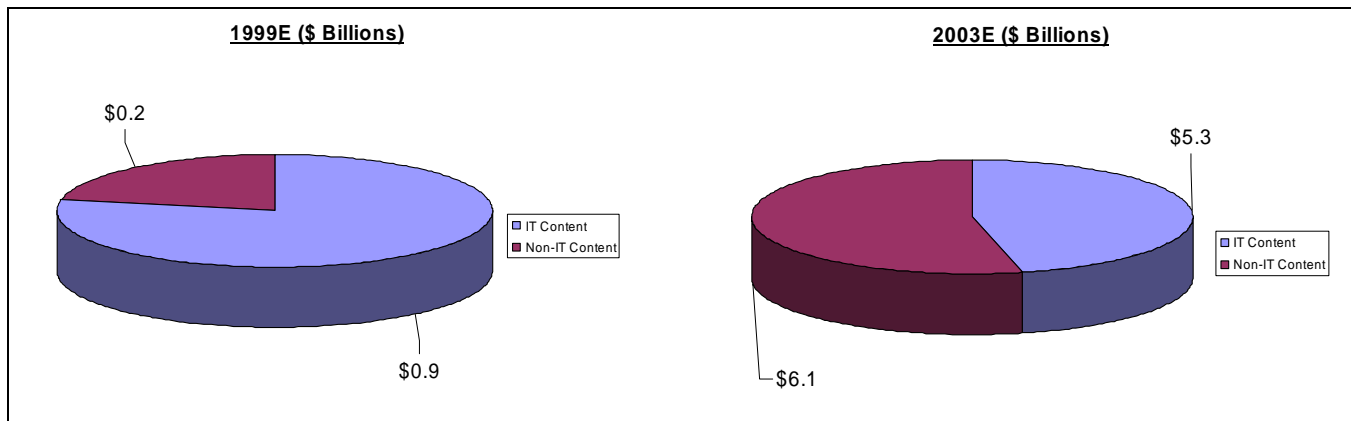
“Today, knowledge has power. It controls access to opportunity and advancement.”

– Peter F. Drucker

The performance improvement learning sector is also moving online, albeit at a less torrid pace relative to IT corporate learning. Topics such as communication, leadership and general business skills are more difficult to translate to an online environment as they are often more subjective in nature and usually require a high level of demonstration and participation. However, through the use of streaming video, simulations and satellite technologies, coupled with increased bandwidth, we believe an increasing number of performance improvement programs will be shifted to technology-based learning methods.

Currently, IT training content dominates corporate e-learning spending, representing nearly 80% of the \$1.1 billion in estimated spending in 1999. Going forward, though, we expect non-IT corporate e-learning spending, much of which will be focused on “soft skills,” to grow explosively as content providers take advantage of technology and increased bandwidth to deliver their offerings via the Internet. IDC projects that by 2003, over half, or \$6.1 billion of the \$11.4 billion total corporate e-learning spend, will be focused on non-IT training content.

Both IT and Non-IT Corporate e-Learning Content Expected to Explode



Source: IDC

We ultimately see the industry embracing a hybrid solution, with an individual's corporate learning involving a combination of the best of technology-delivered and classroom-based instruction.

While the benefits of online learning are compelling and attractive, in the long-run we don't expect instructor-led learning to disappear altogether. We ultimately see the industry embracing a hybrid solution, with an individual's corporate learning involving a combination of the best of technology-delivered and classroom-based instruction. Accordingly, content providers that can complement their instructor led offerings with an e-learning strategy have the potential to offer "one-stop shopping."

An additional feature that we see adding value to the online learning solution is the integration of tutors and/or mentors. Online tutors and mentors not only serve as a resource to answer questions, but also provide feedback and advice, keeping the student involved and motivated to complete the course. According to Jerry Neece, corporate learning programs manager at Sun Microsystems, when employees were asked to complete a self-paced online course without the help of a tutor, only 25% finished. When given the same assignment and access to a tutor through e-mail, telephone or online discussion group, 75% completed the corporate learning.

DigitalThink and SmartForce were two of the first companies to incorporate online mentors and tutors in their courses. With response times of less than 24 hours, students get essentially immediate answers to questions, feedback and advice. Both companies have found the use of tutors to be an effective strategy for keeping the student engaged and involved. As a consequence, they have enjoyed higher retention and completion rates.

Characteristics of a Successful e-learning Solution

- Individual Needs Assessment and Professional Development Curriculum
- Proven High Quality Intellectual Capital
- Anytime Anywhere Access
- Engaging User Experience
 - Simulations
 - Learn By Doing
 - Streaming Video
 - Mentoring
 - Threaded Discussions
 - Chat Rooms
- Regular Reinforcement
- Centralized Knowledge Management Tracking & Administration
- Organizational Consulting Integration & Learning Services



Source: Merrill Lynch Global Growth Group

“Anyone who stops learning is old, whether twenty or eighty. Anyone who keeps learning is young. The greatest thing in life is to keep your mind young.”

– Henry Ford

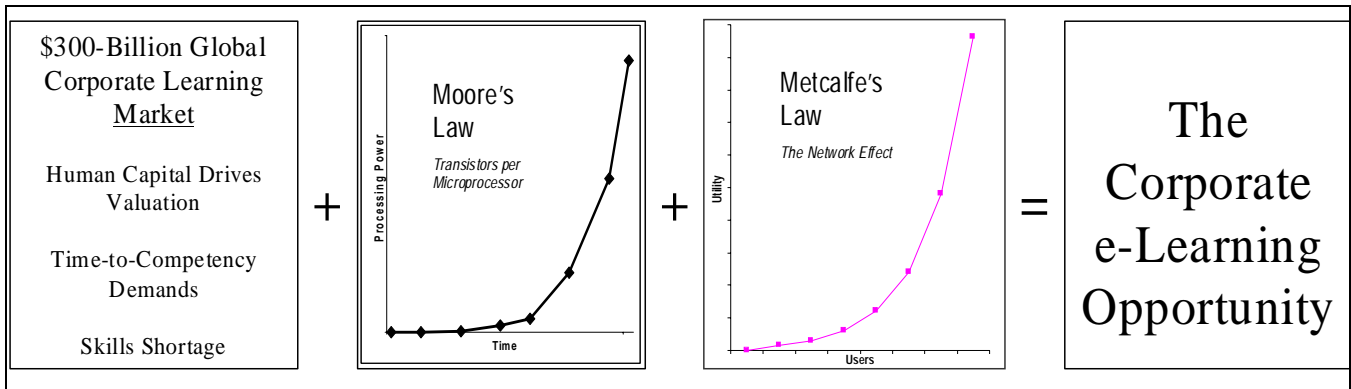
As we sit here today, we believe there is enormous potential for e-learning companies that can provide corporations with the knowledge they need to compete effectively in the global marketplace. This being said, there is tremendous confusion by investors and corporate managers in terms of who does what and how they fit into the e-learning puzzle. Part of this is driven by the companies themselves who, depending on the audience they are talking to, claim they are nirvana offering the perfect solution/opportunity for the e-learning market. For example, in meeting with the corporate learning manager, an e-learning company may purport to do it all, offering everything from an e-learning platform to comprehensive content. In a one-on-one with an investor, the e-learning company becomes “a scalable ASP.” The reality is that it is not that simple.

Where we see this going is analogous to a cable operator providing the infrastructure to deliver e-learning (TCI) and a content provider (Turner Broadcasting) creating courses. Today, we have companies that offer pieces of the infrastructure puzzle, but no TCI, and bits of the programming equation, but no Turner Broadcasting. Tomorrow, we expect learning management systems to combine with aggregators/marketplace exchanges and tool providers and content providers to offer a breadth of courses to become learning networks.

Hence, we see two main categories emerging:

1. **Infrastructure** to provide platforms, tools and systems for corporations to operate e-learning initiatives.
2. **e-Learning Content Providers** who produce courses either by repurposing others’ content or creating their own.

Tremendous Opportunity for e-Learning Companies



Source: Merrill Lynch Global Growth Group

39. The Corporate e-Learning “Net-scape”

For most companies and investors, piecing together the parts to the e-learning puzzle is confusing. We believe that over time, the industry will be simplified, with two main types of e-learning companies – infrastructure and content.

The Corporate e-Learning Competitive Landscape

INFRASTRUCTURE			CONTENT		
Learning Management Systems	Aggregators, Marketplaces & Exchanges	Authoring Tools & Interactive Communication	Comprehensive Content	Vertically Focused Content	University Content
Saba	click2learn	Centra	SmartForce	Course Technology (Thomson)	UNext
Knowledge Planet	headlight	click2learn	DigitalThink	KeepSmart	Pensare
Docent	trainingnet	Eloquent	Ninth House	emind.com	University Access
ITC Learning	Acadio	learnspace	notHarvard	MindLeaders	fathom
Strategic Interactive (Provant)	Hungry Minds	Lotus (IBM)	SkillSoft	NETg	Cognitive Arts
WBT Systems	learn2.com	NetMeeting (Microsoft)	Corpedia	PayBack	Caliber Learning

Source: Merrill Lynch Global Growth Group

Infrastructure

Technology providers offer software and hardware programs to convert, deploy, deliver and manage content.

- **Learning Management Systems** – Also called “enterprise corporate learning software,” these programs provide corporate learning coordinators with the ability to manage the corporate learning process, with such features as employee registration, monitoring and testing across the entire spectrum of offered courses.
- **Aggregators, Marketplaces & Exchanges** – e-Commerce portals and hubs bring corporations and individuals significant benefits, including streamlining the corporate learning selection, approval and buying process, enhancing employee skills and commitment to achieve company goals, empowering employees with tools to manage their professional development and create a self-reliant workforce and centralizing corporate learning activity and reporting
- **Authoring Tools** – These software programs enable the development of computer and web-based courses.
- **Interactive Communication Technology** – Technology-based corporate learning can be delivered in a variety of ways including CD-ROM, synchronous satellite, synchronous Internet or asynchronous Internet.

We discuss these four components in more detail below.

■ Learning Management Systems

Necessity is the mother of all inventions. Tracking and managing corporate learning is a huge task that can be especially difficult considering the number of different mediums used for learning, including instructor-led, video, CD-ROM and the Internet. If e-learning is the “blood” of the education process, learning management systems are the artery system. Corporations need such system to enable them to know who is taking what type of corporate learning, when, where and why.

If e-learning is the “blood” of the education process, learning management systems are the artery system.

“A firm’s IQ is determined by the degree to which its IT infrastructure connects, shares and structures information. Isolated applications and data, no matter how impressive, can produce idiot savants but not a highly functional corporate behavior.”

– Steve H. Haeckel and Richard L. Nolan
“Managing by Wire: Using IT to Transform a Business

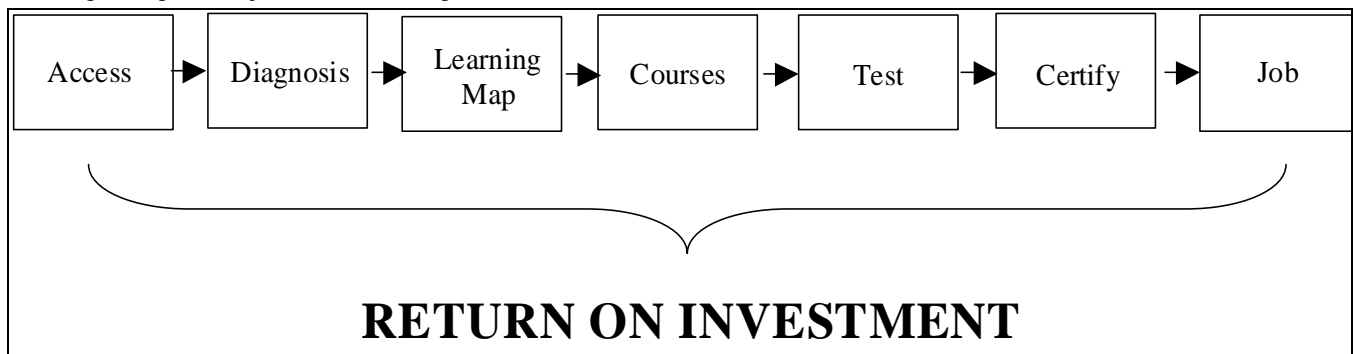
Learning management systems provide corporations with a valuable tool, enabling them to measure and assess an individual’s corporate learning progress and improvement. Learning management systems:

- Identify and assess individual and department-level skill gaps
- Assign appropriate courses to address these gaps
- Assess and measure performance improvement at the individual level or across a department or the organization
- Generate reports comparing performance results across departments or user groups

Similar to a doctor with a medical chart, learning management systems enable corporations to know what an employee knows and doesn’t know, when an employee completed a course, how they performed and the level of improvement. If you can’t measure it, you can’t manage it.

Similar to a doctor with a medical chart, learning management systems enable corporations to know what an employee knows and doesn’t know, when an employee completed a course, how they performed and the level of improvement.

Learning Management Systems Tie it All Together



Source: Merrill Lynch Global Growth Group

Learning management systems play a critical role by enabling companies to measure their learning’s effectiveness, competency, impact on business objectives and profitability. Their functionality is essential, as return on investment in corporate learning has become increasingly important to businesses.

The basic functionality of a learning management system is, in many cases, already included as part of an online solution. In fact, we know of very few online solutions that do not offer some of the capabilities typical of a complete learning management system. For example, SmartForce, DigitalThink and Ninth House

Learning management systems play a critical role by enabling companies to measure their learning’s effectiveness, competency, impact on business objectives and profitability.

Leading Providers of Learning Management Systems

Arista Knowledge Systems
 CBM Technologies (TEDS)
 Docent
 Infotec Commercial Systems
 Ingenium (click2learn)
 Intralearn
 ITC Learning
 Knowledge Navigators
 KnowledgePlanet (Knowledge Universe)
 KnowledgeSoft (Knowledge Universe)
 Librarian (click2learn)
 Manager's Edge (Allen Communication)
 Pathlore Software
 Pathware
 Phoenix
 Pinnacle Multimedia
 Saba
 Southrock
 Strategic Interactive
 SYSCOM
 Teamscape Learning Portal
 Telemachus (Knowledge Universe)
 VCampus
 VuePoint
 WBT Systems (Provant)

Source: Merrill Lynch Global Growth Group

solutions all allow for the tracking and management of courses, include pre-, during and post assessment, and allow students to map out their career objectives and match courses accordingly.

The problem is that the tracking capabilities offered are limited to their courses and platform only and fail to capture the rest of the learning that occurs at an organization. Thus, corporations still have to manage a number of different tracking systems and reports.

What is needed is a learning management system that can track, manage and allocate a corporation's learning on an enterprise-wide basis, regardless of the delivery method (instructor-led, technology-based or online) or who the provider is. We liken learning management systems to enterprise resource planning systems (ERP), which track, manage and allocate a corporation's resources on an enterprise-wide basis.

Similarly, learning management systems must be scalable and "integratable" into key back-office systems, such as human resources, finance and administration. Thus, the true value that learning management systems bring is not so much the basic capabilities, but the level of comprehensiveness, scalability and integration with other departments.

In addition to traditional HR-related ERP software, we think learning management solutions providers, such as Saba Software, have a lot in common with Internet B2B procurement and market-making companies, such as Ariba, Free Markets, Commerce One and Ventro. These companies enjoy premium valuations, owing to the tremendous solutions they can provide, and we think the leading learning management solutions providers can garner similar investor attention.

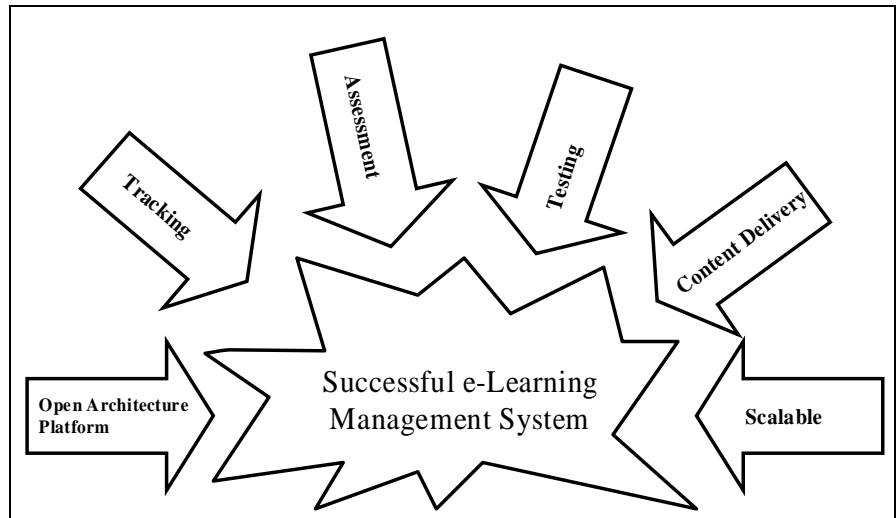
Selected B2B Companies

Company	Price	Mkt. Cap.	Appreciation Since IPO	Price / Sales	
				2000E	2001E
Ariba, Inc.	\$61.75	\$11,869.6	437.0%	201.0x	107.4x
Commerce One, Inc.	67.38	\$5,213.9	862.5%	262.3x	160.1x
FreeMarkets, Inc.	55.88	\$1,982.6	16.4%	198.1x	102.0x
Ventro (Chemdex)	25.13	\$1,123.8	67.5%	29.2x	14.1x
Mean:		\$5,047.5	345.8%	172.7x	95.9x
Median:		\$3,598.3	252.2%	199.6x	104.7x

Source: Merrill Lynch Global Growth Group

“The 20th century ended with the U.S. unemployment rate remaining at its 30 year low. This confronts managers with one of their biggest challenges – finding competent people. Talent is the scarcest it’s been throughout the working careers of most people who currently hold a job.”

– Bureau of Labor Statistics

Successful e-Learning Management System


Source: Merrill Lynch Global Growth Group

To summarize, from an administrative standpoint, the e-learning solution must be:

- **Enterprise-wide and Scalable** – E-learning solutions must be scalable and designed for enterprise-wide deployment.
- **Comprehensive and Integrated** – The e-learning solution should be integrated with back-office functions facilitating the efficient transfer of data.
- **Easy to Deploy, Update and Revise** – Content should be maintained in one location, preferably on the e-learning provider’s servers, thus eliminating the need to install courseware or software and/or configure any hardware. Moreover, courses must be updated and modified easily and immediately, ensuring that data is always accurate and relevant.
- **Marketable** – “If we build it, they will come” does not necessarily ring true for online learning solutions. One of the toughest challenges corporations face when introducing online courses is making students aware of and comfortable with the new delivery medium. Leading e-learning companies will offer clients strategies to help them market and increase internal awareness of the new corporate learning initiatives.
- **High in Customer Support** – Customer support is critical in the e-learning industry, as there is nothing more frustrating than experiencing technical difficulties in the middle of a course. Companies should offer technical support 24 hours a day, seven days a week.
- **Centralized Learning Management Systems** – Return on investment is critically important to corporations. Accordingly, companies need the ability to measure corporate learning’s effectiveness, impact on business objectives and, most importantly, profitability. Learning management systems provide them with the ability to track student progress, as well as enrollments by purchase order, cost center or employee. Thus, performance, spend on corporate learning and the associated return on investment can be monitored, managed and tracked on a regular basis.

Companies need the ability to measure corporate learning’s effectiveness, impact on business objectives and, most importantly, profitability.

“The main concept behind distance learning is moving education rather than learners.”

– British Council

Saba Software, Inc. – Laying the Knowledge “Tracks” to the New Economy

Saba is a leading provider of e-learning infrastructure to Global 5000 and government organizations, learning providers and Internet businesses worldwide. Saba offers an comprehensive, enterprise-wide, Internet-based learning management solution that enables businesses to rapidly and cost effectively assess, plan, deliver, measure and improve the learning of people throughout their organization. Its Learning Enterprise product focuses the learning of customers, partners, employees and suppliers on achieving rapidly changing business goals. Saba’s leading platform allows companies to:

- Continuously assess how each learner learns best, as well as their competency, certification and content needs;
- Plan the best mix of online and traditional educational offerings and facilitate online content purchase, conversion, or development based on global demand forecasts;
- Deliver learning using a personalized mix of traditional & online offerings available in any and all content delivery tools;
- Track on a global basis the learning and financial results vendors deliver by type of delivery; and
- Measure and improve customer satisfaction, education effectiveness, profitability, return on investment and bottom-line business results – by type of delivery.

Saba empowers employees by helping them understand how they learn best, assess their learning needs, build individual development plans online, browse personalized catalogs, acquire and participate in the online and traditional educational offerings that work best for them, take pre- and post-tests, provide feedback online and receive necessary certifications. Its competency-driven, Internet learning environments enable individuals to access personalized, cost and time-effective online learning.

Its Education Management System (EMS) supports all learning technologies, as well as open industry standards such as AICC, and can integrate with all open content delivery tools, including CBT, WBT, distance learning, Internet, intranet, EPSS, multimedia, CD and synchronous and asynchronous delivery tools. With Saba, companies can now manage all of their learning, may it be on or offline, that occurs from one centralized system. Moreover, companies can track and measure key metrics such as customer satisfaction, education effectiveness, profitability and return on investment.

The key feature of the Saba System is that it is not limited to only company employees. The system is global and designed to reach people located anywhere within the extended enterprise, whether they be suppliers, employees, channel partners or customers. Saba enables global Fortune 500 companies to run diverse operations on a single system, enforcing the appropriate learner-specific, local or global business rules and workflows.

Saba completed its IPO on April 7, selling 4.6 million shares priced at \$15 each.

Founded: 1997

Headquartered: Redwood Shores, CA

Public/Private: Public (Nasdaq: SABA, D-1-1-9)

URL: saba.com

Claim to Fame: Platform supports all learning technologies and can integrate with all open content delivery tools

Investors: Sequoia Capital, Cross-Link Omega Ventures, Comdisco and London Pacific & Annuity

Key Partners: IBM, PriceWaterhouseCoopers

Key Customers: Cisco, Adobe, Ford Motor Company, SGI Baan, Sun-Netscape Alliance, Hewlett-Packard, and Quest, Anheuser Busch and Wells Fargo

FY 1999A Revenues: \$1.9 million (Fiscal Year ends May 31)

CY 2000E Revenues: \$28.9 million

CY 2001E Revenues: \$63.6 million

Market Cap: \$804 million (5/15/00)

Revenue Components:

Content:

Commerce: X

Advertising:

Service/Licensing: X

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics:

Number of Clients: 50

Number of Users: 2 million+

Number of Content Partners: 100+

Number and Amount of Transactions on the Learning Exchange

KnowledgePlanet.com

KnowledgePlanet.com provides to training managers and human resources professionals an internet-based employee performance assessment and learning solution.

KnowledgePlanet.com helps companies prepare their employees for crucial business initiatives, such as launching e-business strategies, increasing workforce readiness for new product launches and maintaining regulatory compliance. Members can easily locate, evaluate, purchase and deliver learning content using multiple B2B procurement options, enabling them to reduce cost, time and paperwork and streamline the delivery of learning to employees. The solution is hosted by KnowledgePlanet.com and offered through membership subscription.

KnowledgePlanet.com offers a leading B2B e-learning solution to accelerate business strategies in today's rapidly changing Internet economy. The KnowledgePlanet.com solution focuses employee learning and performance on business-critical skills by integrating the KP2000 Workforce Performance Management system with e-Learning Marketplace where thousands of learning products and services are available from leading training providers. KP2000 provides performance management to define knowledge, skills, and roles for each employee: Learning management to deliver personalized learning plans and required courses and assessment management to measure results. e-Learning Marketplace courses are organized to help training professionals easily locate and

evaluate product offerings from multiple training providers at a single location. This eliminates the time-intensive processes associated with buying and installing learning. It provides training and human resource professionals with news, information, chat groups with peers and experts and research to help shape business initiatives around Workforce Performance Management.

KnowledgePlanet.com was founded by combining the assets of four companies: KnowledgeSoft, Inc., of Mechanicsburg, PA, developed a suite of hosted, Internet-based applications for workforce performance management that is in use by many leading Fortune 1000 companies. Kobixx Systems of Minneapolis, a wholly-owned subsidiary of KnowledgeSoft, sold eLearning software through a worldwide distribution channel. MindQ, based in Reston, VA, developed award-winning learning content and technology for managing individual learning objects. Knowledge Universe Interactive Studio of Emeryville, CA, combined the art and science of interactivity with new ideas in human learning theory to produce highly engaging and effective online learning experiences.

While its competitors may focus on only one aspect of enhancing workforce effectiveness and productivity, KnowledgePlanet.com offers a complete package from assessment to training based on business objectives with an eye toward improving the performance of the entire workforce in the e-business environment.

Founded: December 1999

Headquartered: Reston, Virginia

Public/Private: Private

URL: knowledgeplanet.com

Claim to Fame: Part of the Knowledge Universe keiretsu

Coollest Feature on the Website: Ability for authorized purchasing agents to launch and evaluate self-paced learning, and review quality ratings added by the KnowledgePlanet.com member community during their evaluation process of 3rd party courseware.

Key Investors: Knowledge Universe, KnowledgeSoft, and Harbourvest Partners

Key Clients: Key Clients: Chevron, Glaxo Wellcome, Hershey Foods, Rite Aid, Fidelity, Convergys, PeopleSoft, Wachovia and Morgan Stanley Dean Witter.

Revenue Components:

Content: X

Commerce:

Advertising:

Service: X

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of users/students

Number of clients

Number of courses

Docent, Inc.

Docent Inc. provides e-learning solutions that bring together enterprises, content providers and professional communities to deliver business results. Docent's solutions help to increase revenue, decrease expenses and increase employee productivity while being recognized as fast-to-implement, easy to use, and flexible to meet constantly evolving business needs. Together with their key strategic partners, Docent is an emerging e-learning company, combining technology with content in a comprehensive system that increases a company's business performance and readily scales to its learning needs.

The company's integrated online learning solutions help organizations improve front office knowledge and skills (Sales, Channels, Service & Support) through the unique combination of methodology, expertise and technology. Docent provides sophisticated content and proven, scalable technology that allows companies to choose the right solution for their needs.

Docent's Enterprise Learning Solutions allows organizations to:

Plan & Assess - develop learning needs based on business goals; assess individual knowledge and skill gaps to develop personalized learning.

Register - online student enrollment and administration; with personalized curriculums.

Deliver - enroll and deliver "just-the-right" learning via a variety of technologies.

Certify - certify completion and competency.

Measure - integrate with other enterprise applications to measure impact on business goals and continuously improve learning effectiveness.

Founded: 1997	1999E Revenues: NA
Headquartered: Mountain View, CA	2000E Revenues: NA
Public/Private: Private (has filed S-1 for IPO)	Revenue Components:
URL: docent.com	Content Sales: X
	Commerce: X
	Advertising:
	Service :
Coollest Feature on the Web: Docent's Dimension7 Process	Other: X
	Hub/Portal Strategy: Yes
Investors: Norwest Venture Partners, Advanced Technology Partners Invesco Private Capital, Comdisco Ventures, CS First Boston, BancBoston Ventures, Arcadia Partners, Gilde Investment Mgmt	Network Effect: Yes
Key Customers: Merrill Lynch, Sun Microsystems, Lucent	Metrics to look for:
	Unique Users
	Number of Clients

CBM Technologies (TEDS) – The Power is in Your People. TEDS is the Switch.

CBM Technologies is a privately owned, U.S.-based software development and consulting company providing innovative learning and workforce development solutions to the industrial and business world for more than 20 years. Today, its leading product, TEDS, is a leading global People Resource Planning (PRP)TM solution, providing organizations with the infrastructure, tools, and support to maximize and strategically plan workforce performance. TEDS has established a reputation for delivering real-world solutions and tools to Fortune 500 companies.

TEDS now serves millions of users in the value chain of companies in over 35 countries. The company has earned a reputation for rapid and successful global product installations with an emphasis on innovation and customer support. Its unique development process utilizing the TEDS Consortium accounts for the intelligence of the TEDS Software, developed with insight provided by training and development experts from some of the world's leading companies.

With its recent version 5.0 release TEDS is one step closer to completing its PRP vision. With TEDS, companies can:

- Plan for and assure the workforce needed to achieve business goals – in the shortest time.
- Take total control of learning, performance, and Roles, Tasks, and Competencies (RTC) to create an enterprise learning community of employees, customers, suppliers, and vendors.

- Create e-commerce learning portals using a highly-scalable and stable LMS backbone
- Use people resource planning infrastructure to increase competitiveness and profitability.
- Enable employees, customers, and vendors to learn anywhere – at work, at home, in hotel rooms, in flight, anywhere their schedules take them.
- Respond immediately to changing business requirements anywhere in the world.
- Create a continuous workforce improvement process that runs itself – automatically boosting and fine-tuning performance and competence.
- Apply the "best practices" of the largest and most innovative multinational corporations.

■ Profile of Offered Services

TEDS staff includes experienced subject matter experts, software developers, and project planners and managers who have managed domestic and global implementation projects. Areas of expertise and experience include performance analysis, product support, quality assurance, certification, software development, systems engineering and integration, learning, database management, business processes and corporate culture.

Founded: 1980

Headquartered: Atkins, Virginia

Public/Private: Private

URL: teds.com

Claim to Fame: Providing a simple, easily implemented solution

Partnerships: PeopleSoft Global Alliance, SAP Independent Software Vendor, Oracle Global Independent Software Vendor & Reseller

Key Investors: NA

Key Clients: Applied Materials, Hewlett Packard, Texas Instruments, Bell Atlantic, BellSouth, Nortel, Telcordia, U.S. West, GE Capital, DaimlerChrysler, Nissan North America, Marriott International, Sandia Eastman Chemical, Celanese, T. Rowe Price, Thiokol, Florida Power

Revenue Components:

Content:

Commerce:

Advertising:

Service: X

Other:

Network Effect: NA

Hub/Portal Strategy: No

Metrics to look for:

Number of users/learners

Number of clients

Number of courses/content partners

Arcadia Partners Keiretsu

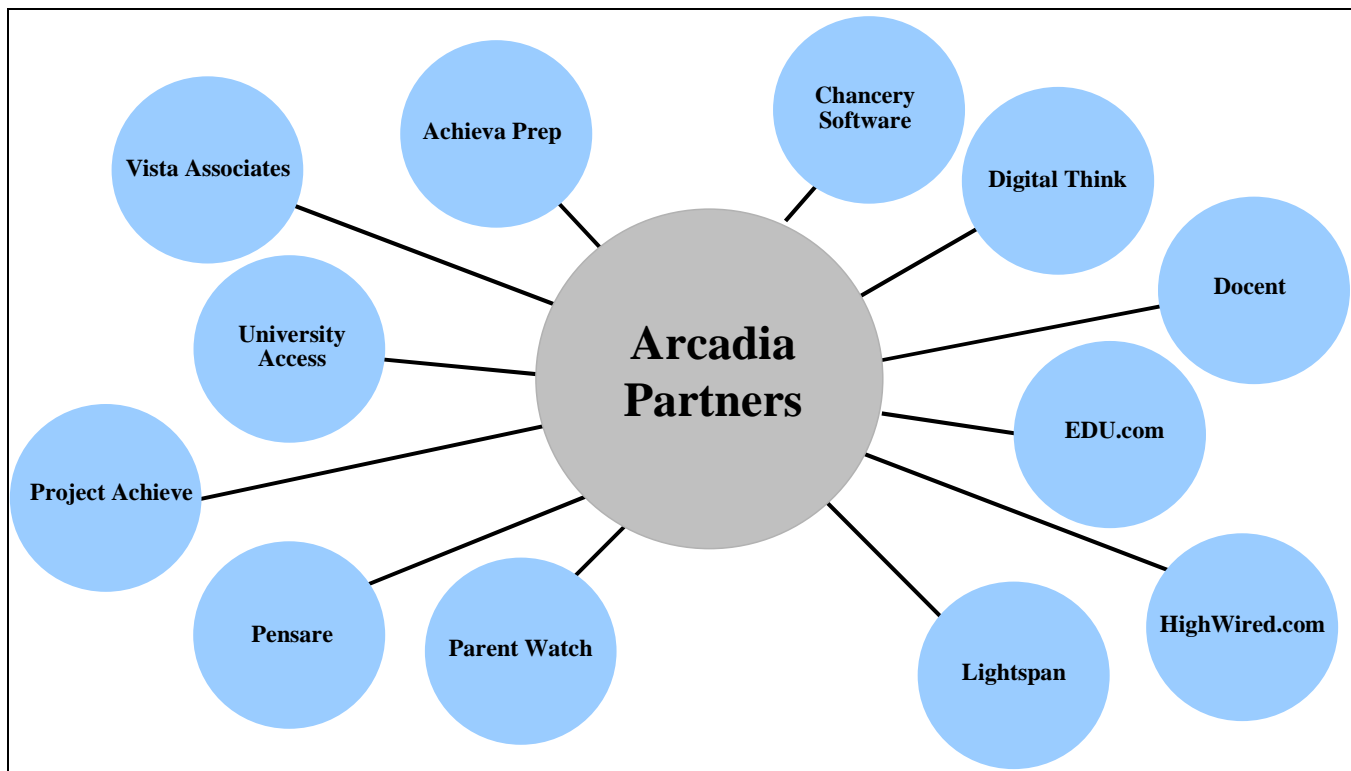
Arcadia Partners is a private equity fund focused exclusively on the for-profit education industry. Arcadia continuously tracks developments and trends in the U.S. knowledge enterprises industry, looking for opportunities for investment. Once an attractive area is identified, Arcadia chooses the best investment approach for the

particular opportunity. In some cases, Arcadia will make a minority investment in an existing company, while in other cases it will build an industry leading company through strategic consolidation of existing enterprises. The following is a list of Arcadia’s current investments:

The Arcadia Partners Human Capital Keiretsu

Company Name	Company Description
Achieva Prep	Operates bricks-and-mortar and Internet-based outsourced high school guidance counseling
Chancery Software	Publisher of information management systems for districts, schools and homes
Digital Think	Designer, developer and provider of web-based learning courses for Fortune 1000 corporations
Docent	Provides enterprise-wide learning management systems, course assembly tools and other software
EDU.com	Student discount retailer focused on the U.S. university market
HighWired.com	Provides free web-publishing tools for high school students, classrooms, guidance officers, sports teams & school papers
Lightspan	Provider of K-12 supplemental educational software and is a K-12 school – home portal in 3,000+ schools
Parent Watch	Installs video servers in day care centers allowing parents to subscribe to watch their children
Pensare	Provider of on-line MBA content to Global 1000 customers. Partners include Harvard, Wharton, Stanford and Duke.
Project Achieve	Student information and management system for K-12 schools
University Access	Provides on-line business courses from leading professors to the college and corporate marketplaces
Vista Associates	Develops customized on-line education and administration environments for universities. Clients include MIT, Harvard, et al.

Arcadia Partners Education Keiretsu

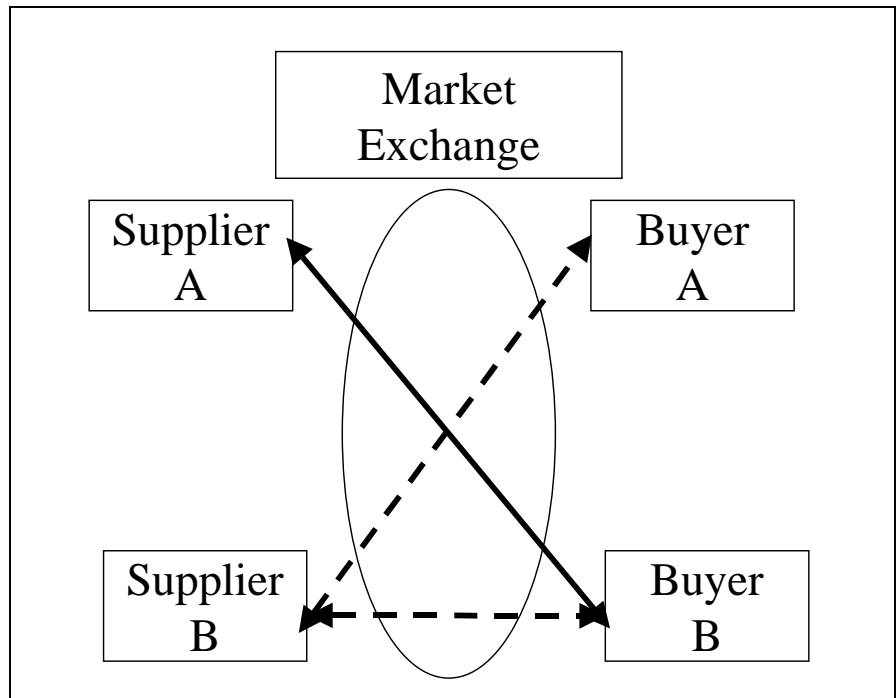


Source: Merrill Lynch Global Growth Group

■ Aggregators, Marketplaces & Exchanges

The Internet is changing the way people and businesses communicate faster than any technological innovation in history. By giving business users an easy to use and more cost effective medium through which to communicate and share information, the Internet continues to create new opportunities for conducting commerce. We believe this is especially true in the corporate learning market. The current paradigm for selecting and purchasing corporate learning is inefficient and usually left to the individual or his manager, both of whom lack specialized knowledge about choosing corporate learning solutions. Moreover, the paperwork related to attaining corporate learning is usually cumbersome and time-consuming, requiring manual processing of approval, registration and payment.

Learning Aggregators, Marketplaces and Exchanges Connect People to Learning



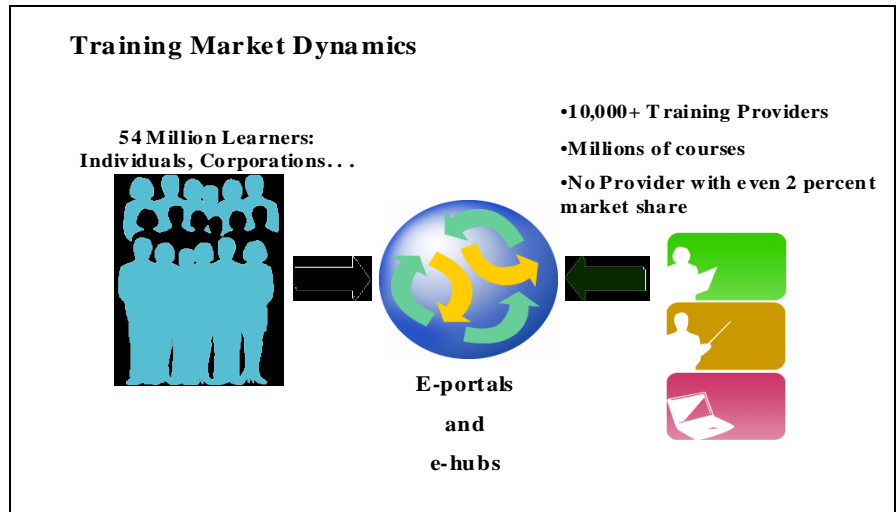
Source: Merrill Lynch Global Growth Group

The advent of the Internet and e-commerce companies has automated the burdensome process of buying and selling of corporate learning. Corporate learning commerce portals are proliferating rapidly, capitalizing on the power of the Internet, providing companies with one virtual location where employees can go for all of their learning needs. e-Portals and e-hubs are reshaping the corporate learning industry, providing companies with an e-commerce marketplace that is the most effective link between the 54 million-plus professionals seeking skills and corporate learning and the more than ten thousand providers of corporate learning related products and services.

The advent of the Internet and e-commerce companies has automated the burdensome process of buying and selling of corporate learning.

e-Portals and e-hubs are reshaping the corporate learning industry, providing companies with an e-commerce marketplace that is the most effective link between the 54 million-plus professionals seeking skills and corporate learning and the more than ten thousand providers of corporate learning related products and services.

New Opportunities in e-Learning



Source: Merrill Lynch Global Growth Group

Regardless of the type, we believe the value proposition of e-commerce portals is high, as they provide corporations and individuals with a cost effective, efficient and convenient corporate learning solution.

e-Commerce portals bring corporations and individuals significant benefits:

- Streamlines the corporate learning selection, approval and buying process for professionals and corporations – improving the speed, quality, results and lowering administrative costs
- Enhances employee skills and commitment to achieve company goals by aligning corporate learning to specific business objectives and company policies
- Empowers employees with tools to manage their professional development and create a self-reliant workforce
- Centralizes corporate learning activity and reporting – providing data to guide future selection and strategic decisions about employee performance and retention

e-Commerce portals that serve the corporate learning market vary immensely by type of content, industry focus, functions and capabilities. Some focus on a particular niche or industry. Others define themselves by the type of corporate learning offered, online learning or offline learning. Some sites claim to provide it all.

“Online continuing education is creating a new and distinct educational realm, and it is the future of education. There is a global market here that is potentially worth hundreds of billions of dollars.”

– Peter Drucker

The audience served also varies. Some hubs are B2C and focus on the consumer market. Others are B2B and focused on the corporate market. Many leverage their platform to both markets, providing a general marketplace for consumers, while also offering corporations customized an e-commerce portal that is tailored to their needs. These corporate e-commerce portals can provide corporations customized features such as company-specific messaging, integration of internal and external offerings, employee personalization, electronic approval process management, on-line purchasing, analysis and reporting corporate learning and turnkey employee communications programs.

Regardless of the type, we believe the value proposition of e-commerce portals is high, as they provide corporations and individuals with a cost effective, efficient and convenient corporate learning solution.

click2learn.com

click2learn.com, formerly Asymetrix Learning Systems, is a leading provider of e-learning solutions that enable organizations to create, deploy and manage Internet-based learning inside a company or in a hosted Application Service Provider (ASP) model. Founded by Paul Allen, co-founder of Microsoft, click2learn.com offers a single source solution by incorporating advanced learning management and authoring software products with award-winning professional services, including custom development, strategic consulting and systems integration services, combined with leading content on a wide variety of business topics.

click2learn offers companies a single source solution that includes consulting, authoring software products, custom development, content and a learning management system. Clients can:

- Access to an online learning portal that has thousands of courses in all areas of business and personal development;
- Create their own corporate learning content using ToolBook, its authoring software product;
- Track and manage corporate learning resources and programs using Ingenium, its learning management system and

- Use its services to custom design and develop corporate learning strategies and programs.

With its new portal launched in early October 1999, click2learn.com has already enjoyed significant momentum and success. click2learn has:

- Signed a three-year marketing, distribution and co-branding agreement with Go2Net to integrate click2learn.com into their network of sites;
- Signed a multi-year marketing and distribution agreement with VerticalNet to integrate customized versions of click2learn.com into their network of vertical communities;
- Signed strategic content license agreements with leading companies such as NETg, Skillsoft, Competence Software, Crisp Publications, RunZebra.com, Learn2.com, Maxim Training, netSyndicate, Skills Online, Velocity Business Publishing, FirstNet and InfoSource and
- Raised money from smart strategic investors including Vulcan Ventures, Paul Allen's venture funding arm, Go2Net and Marshal Capital Management, an affiliate of Credit Suisse First Boston.

Founded: 1984

Headquartered: Seattle, Washington

Public/Private: Public (Nasdaq: CLKS, Not Rated)

URL: click2learn.com

Claim to Fame: Established in 1984 by Microsoft co-founder Paul Allen, click2learn is part of Allen's "Wired World" of companies and And is designed to be the lifelong e-learning solution for businesses, Governments and educational institutions of all sizes.

Key Clients: Intel, the U.S. Navy, Gates Rubber Company, Symantec Corporation, NYUonline, , Skillsoft, Competence Software, Crisp Publications, RunZebra.com, Learn2.com, Maxim Training, netSyndicate, Skills Online, Velocity Business Publishing, FirstNet and InfoSource

Key Strategic Partners: NETg (subsidiary of Harcourt, Inc.), eWork Exchange, B2Bxchange, VerticalNet, and Go2Net

Revenue Components:

Content: X

Commerce: X

Advertising: X

Service/Licensing: X

Other:

Market Cap: \$177 million (5/15/00)

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of Users

Number of Titles

Number of Clients

Headlight.com – Online Learning for Small and Medium-Sized Businesses

Headlight.com is a leading source of online learning for small and medium-sized businesses, offering individuals and managers the largest selection of learning courses via the Internet. The Company offers a comprehensive range of business-related topics including learning for desktop applications (e.g., Word™, Navigator™), IT Professionals (e.g., Java, C++), software certification (e.g., Novell, Oracle) and general business skills, including everything from “how to write a business plan” to sophisticated financial management. The website offers learners an easy, convenient, one-stop solution for their learning needs with prices ranging from \$12.95 to \$199.99 per course.

Courses are delivered directly to the user’s browser with no downloads or installations. Learners can start and stop a course as they wish, and then return to a course multiple times to refresh their skills.

Headlight.com also offers a comprehensive suite of free services, designed specifically for small and medium-sized businesses, including free skills assessments, free courses, and learner management functionality for individuals and managers. The courses available through Headlight.com take on average less than half the time of traditional classroom courses at up to a 90% cost savings.

<p>Founded: 1998</p> <p>Headquartered: San Francisco</p> <p>Public/Private: Private</p> <p>URL: www.headlight.com</p> <p>Claim to Fame: Headlight offers one of the largest selection of online learning courses geared to the specific needs of small and medium-sized businesses.</p> <p>Coollest Feature on the Website: Headlight.com provides personalized recommendations on what to learn through the use of free online skill assessments that provide instant, individualized feedback, allowing the user to take the courses that are most relevant and useful.</p> <p>Key Investors: Draper Fisher Jurvetson</p> <p>Key Distribution Partners: Compaq, Concentric.com, Office.com, iNiku, AllBusiness, Alta Vista-SkillSoft, Compaq, Office.com, and PlanetLearn</p> <p>Key Content Partners: Nearly 30 content partners including: ActiveEducation, Brainbench, Learn2.com, SkillSoft, and Ziff Davis Education</p>	<p>Revenue Components:</p> <p>Content: X</p> <p>Commerce: X</p> <p>Advertising:</p> <p>Service:</p> <p>Other:</p> <p>Network Effect: Yes</p> <p>Hub/Portal Strategy: Yes</p> <p>Metrics to look for:</p> <p>Number of courses: 1000+</p> <p>Number of page views</p> <p>Number of users/students</p> <p>Number of clients</p>
--	--

Acadio Corporation – Helping professionals find the best e-learning products online

Acadio addresses the continuing education market in which spending topped \$330 billion according to International Data Corporation. In addition, professionals spend an average of \$326 annually on courses and self-study materials for personal or professional advancement. There are approximately 78 million professionals in the U.S. Acadio targets the high income, high education business and computing professionals, which represent about 65% of all professionals or 51 million potential customers.

Acadio is aggregating supply and demand in the very large, yet highly fragmented, continuing education industry. It offers tens of thousands of high quality education and self-study products plus compelling editorial content. In addition to product offerings, Acadio posts independent articles, expert commentary, and skills assessment tools to assist consumers in making purchase decisions that best match their interests, time and budget.

Acadio will give consumers the opportunity to find, evaluate, compare, and purchase learning products and services.

By partnering with leading providers such as Time Warner, Microsoft, American Management Association and dozens of other continuing education organizations, Acadio brings together a full range of products. The company is in the initial stages of launching its website, www.acadio.com. During the first phase, the site will offer 20,000 self-study products including computing, general business and self-improvement books, videos, CD-ROMs and audiocassettes. In the second phase, the site will feature a comprehensive listing of over 200,000 classroom-based courses and seminars offered by accredited institutions, seminar firms, and professional associations. Users will be able to register online. The final stage of development will include a variety of Web-based classes, both instructor-led and self-paced across numerous categories.

Founded: April 1999

Headquartered: Seattle, Washington

Public/Private: Private

URL: www.acadio.com

Claim to Fame: A comprehensive online destination providing easy access to resources as well as reviews and comparisons of continuing education products and services

Key Investors: Tokyo-based Trans Cosmos USA, Bancshares Capital, Phoenix Partners, Steven Sperry (CEO of Acadio Corp.)

Key Partners: 100 partners including: Time Warner, Microsoft, American Management Association, DiscoverWare, Center for Creative Leadership, Wiley, Ken Blanchard, American Media, Berlitz, Pearson Professional Technical Reference (PTR)

Revenue Components:

Content: X

Commerce: X

Advertising:

Service: X

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of users/students

Number of courses

Number of page views

TrainingNet

TrainingNet is a leading e-commerce marketplace for corporate learning and professional education. Through partnerships with over 1,000 content providers, TrainingNet aggregates hundreds of thousands of course-events annually in over 25 categories via numerous modalities including classroom, on-site, on-line corporate learning, books, videos and CD-ROMs. By leveraging

key strategic alliances, the company is making its marketplace the destination of choice for those whose focus is on career development, including the HR sections of corporate intranets, the career sections of high-traffic Web sites, business and professional oriented Websites and TrainingNet's own public Website.

Founded: 1999

Headquartered: Bedford, MA

Public/Private: Private

URL: TrainingNet.com

Claim to Fame: Largest selection of courses

Key Investors: Charles River Ventures, Bessemer Venture Partners, Blue Rock Capital

Key Commerce and Content Partners: Business Week, DigitalThink, HungryMinds, Oracle, Learning Insights, New Horizons, Dun & Bradstreet and ExecuTrain

Key Customers: CMGi, Levi Strass & Co., Harley Davidson NewsEdge, Biogen, Genzyme and Mercury Corporation

Revenue Components:

Content sales: X

Commerce: X

Advertising: X

Service:

Other (licensing):

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics:

Number of Content Providers: 1,000+

Number of Commerce Partners

Number of Users

Number of Customers

Hungry Minds – Gateway to Online Learning

Hungry Minds.com is a one-stop online learning marketplace, providing individuals with an array of valuable online courses and resources including discussion groups, online communities and knowledge databases. Through its partnerships with more than 30 premier companies and universities, Hungry Minds will promote thousands of quality university-level and professional development courses and services within its Website, such as nursing, marketing and computer science. The company has an impressive list of partners that include Yahoo!, Amazon.com, DigitalThink and TrainingNet.

Hungry Minds has also recently launched People's University (People's U), an online learning community

that enables users to create, teach and participate in a variety of learning experiences developed by their peers. Contributors to People's U. will have the opportunity to own a personalized "classroom site," or online environment, leverage easy-to-use publishing tools for developing courses and promote their online learning experiences. The community offers a non-traditional learning environment with an open curricula and flexible attendance schedule. Within course templates, contributors can post lessons, white papers, stories and any other variance of digital content. Learning experiences located within People's U. will be created on a variety of topics such as, "How to Quilt", "Ballroom Dancing", "Jazz History" and "Inside the Criminal Mind".

Founded: 1999

Headquartered: San Francisco, California

Public/Private: Private

URL: hungryminds.com

Claim to Fame: Making learning accessible, instantaneous and easy. The company features editors and Subject Experts to remove the information overload from Internet research and help guide users to the knowledge they need.

Investors: Dick Albright (cofounder and Vice President of Video Account Management), Ron Alsheimer (former CEO of the Factory), Frank Barnako (Managing Editor, CBS MarketWatch), Steve Berrard (former CEO of Blockbuster), Scott Beck (CEO of Tango – A Private Investment Company), Tom Byrne (cofounder New River Capital Partners, former Vice Chairman of Blockbuster), Josh Green (Director, Venture Law Group), Anthony Harnett (CEO of Harnetts, Inc., former CEO of Bread and Circus) and Armond Waxman (President and CEO of Waxman Industries)

Key Partners: Amazon.com, Yahoo!, DigitalThink, TrainingNet.com, Blackboard Inc., University of Phoenix (Apollo Group), Learn2.com, VarsityBooks, Skillsoft, The Princeton Review

Revenue Components:

Content: X

Commerce: X

Advertising: X

Service:

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of courses: 37,000

Number of content partnerships: 46

Number of users

The Internet allows individuals to communicate, collaborate and share with others from all over the world, regardless of location.

The Internet allows individuals to communicate, collaborate and share with others from all over the world, regardless of location. People who have similar interests and backgrounds can now congregate in one virtual location, sharing thoughts and ideas through chat rooms and threaded discussions.

E-hubs build off of e-portals, providing content and collaboration, in addition to commerce activity. Instead of “clicking through and passing by” a e-portal, hubs encourage individuals to “click to” and stay, collaborate and share information.

Online Content Aggregators, Marketplaces and Exchanges

Online Content Aggregators	Description	E-Commerce	B2B	B2C
Acadio	Provider of online services related to continuing education	Yes	X	X
Hungry Minds	A single destination where you can learn anything, anytime	No		X
TrainingNet	Marketplace for skills training and professional education	Yes	X	X
SmartPlanet	Learning community offering online courses and human interaction	Yes		X
HRHub.com	Provider of content, resources and training products for human resources professionals. The site is interactive, allowing users to exchange ideas in real time or via bulletin boards.	Yes	X	
PlanetLearn.com	Provider of self-paced training for IT professionals. Offers over 1,500 courses that are available in video, CD-Rom and on the internet	Yes	X	X
click2learn.com	Provides wide range of training products and services in a variety of formats: CBT, hard goods (CD-ROM, video, audio, books, etc.), Instructor-Led Training (ILT), synchronous training, and eManuals.	Yes	X	X
Geo Learning	Provider of computer-based training solutions for business. Offers over a thousand technical and soft-skill courses available in Internet/Intranet, CBT, CD-ROM, LAN network, and conventional print-based mediums.	Yes	X	
Headlight.com	Provider of web-based training in all areas. All courses are web-based.	Yes	X	
Learn2.com	Provider of online learning solutions. Extensive library of IT and performance improvement courses.	Yes	X	X
ScheduleEarth.com	Resource for personal and professional development schedules for courses, seminars, and continuing education.	No		X
Seminar Finder	Directory of services of professional seminars, continuing education courses and web-based training programs.	No	X	X
Solution Central	Directory of technical courses, trade shows, seminars, and conferences about IT, communications, Internet and development. Has over 44,118 scheduled courses and events are available.	No		X

Source: Merrill Lynch Global Growth Group

Hungry Minds, founded by Stuart Skorman (former founder and CEO of Reel.com), has partnered with over 30 premier companies and universities offering over 20,000 courses. Unlike CVU, Hungry Mind’s offerings are not limited to higher education courses in academic curriculum areas, instead it covers a broad range of topics from math to cooking. In the near future, Hungry Minds plans to round out its offerings with supplemental materials such as books, videos and additional online learning experiences on its Website, making it one of the largest and most comprehensive learning portals to date.

■ Authoring Tools

These software programs enable the development of computer and web-based courses. Today, authoring software is, in many cases, included as a service by an e-learning solutions provider. However, there are many companies that still prefer to do it themselves, as they want to maintain control of the creation and design of the courses. There are primarily three companies that dominate this market: Macromedia, click2learn.com (formerly Asymetrix) and Allen Communications, which was recently acquired by Gilat Communications.

Leading Authoring Tools Providers

Allen Communications (recently acquired by Gilat Communications)
 click2learn.com (formerly Asymetrix)
 Generation21 (Advantage Learning)
 Macromedia

Source: Merrill Lynch Global Growth Group

The market for authoring products has experienced declining demand in the past few years as their capabilities have become a standard component of most online platforms. As a consequence, authoring companies have sought new avenues for growth. Most have added other products, such as learning management systems and consulting services to their portfolio of products, enabling them to position themselves as a total outsource solution provider.

One company that has successfully repositioned itself in this new environment is click2learn.com. Realizing the market opportunity provided by the Internet, click2learn (formerly Asymetrix) completely redefined itself from an authoring software company to a leading online learning portal with over 1,100 titles of content and numerous partnerships with leading corporate learning providers.

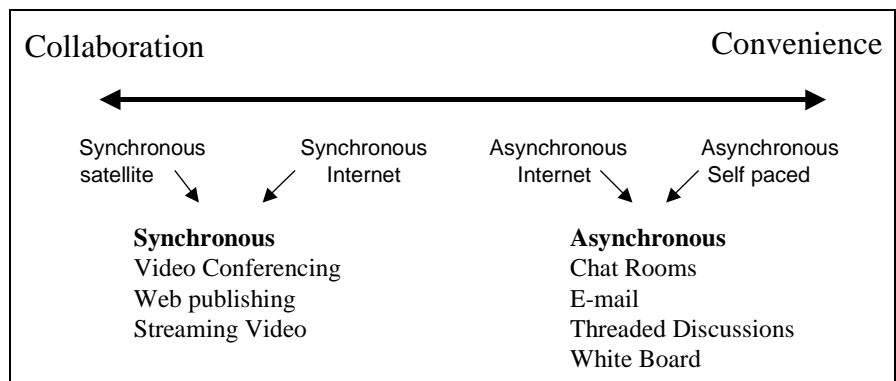
■ Interactive Communication Technology

Technology-based corporate learning can be delivered in a variety of ways including via synchronous satellite, synchronous Internet or asynchronous Internet.

- **Asynchronous learning** (two-way communication in which there is a time delay between when a message is sent and received) is the most flexible. Communication is accomplished via email, voicemail and threaded discussions, thus students are not forced to adhere to anyone's schedule and can participate when it is convenient for them.
- **Synchronous learning** is conducted in real time and require students to log onto the Internet or join a video conference system and/or a conference call at a specific time in order to participate in the instruction. While still convenient compared to classroom based-instruction, it is more restrictive due to the required log in time.

The decision regarding which platform to use depends on a number of variables including the type of content to be delivered, the target audience and the technology resources available. The dilemma many corporations face is that they want the flexibility of asynchronous learning, but additionally want the interactivity and the added human component of a synchronous solution.

The Collaboration-Convenience Decision



Source: Merrill Lynch Global Growth Group

The market for authoring products has experienced declining demand in the past few years as their capabilities have become a standard component of most online platforms.

While streaming video is one of the most effective ways to engage a learner and the most preferred by users, companies do not yet have the “pipes” or bandwidth to deliver it. As consequence, several companies have found other innovative strategies and techniques to deliver the human element that technology learning solutions lack. The most basic is through the use of collaboration features, such as chat rooms, e-mail exchanges and conduced live online and threaded discussions, which are e-mail exchanges that are indexed and are not live. Collaboration tools enable employees to communicate with others, sharing ideas and learning from each other, creating an online community environment.

Another feature that has been very effective in capturing the human component online is the presence of tutors and mentors. Online tutors and mentors not only serve as a resource to answer questions, but also provide feedback and advice, keeping the student involved and motivated to complete the course. According to Jerry Neece, corporate learning programs manager at Sun Microsystems, when employees were asked to complete a self-paced online course without the help of a tutor, only 25% finished. When given the same assignment and access to a tutor through e-mail, telephone or online discussion group, 75% completed the corporate learning.

There are several companies that provide synchronous and asynchronous delivery technologies. Companies that provide synchronous platforms include Centra Software and LearningLinc. These companies essentially bring the classroom online, providing live collaboration that include functionalities such as voice over the Internet, software application sharing, real-time data exchange and shared workspaces. While not as flexible and convenient as asynchronous delivery, synchronous delivery is more interactive and personal, appropriate for one-to-one customer and sales interactions, seminar and presentation events and learning and interactive teamwork sessions.

Collaboration tools enable employees to communicate with others, sharing ideas and learning from each other, creating an online community environment.

Synchronous Delivery Platforms

Centra Software	Educational Video Conferencing
Eloquent	Horizon
LearnLinc (formerly ILINC)	Lotus LearningSpace
NetMeeting	PlaceWare
Tegrity	WBT Systems

Source: Merrill Lynch Global Growth Group

There are few companies that sell pure asynchronous technology solutions – most bundle the platform with content and services. For example, both SmartForce and DigitalThink offer a robust, comprehensive asynchronous platform, however the solution is sold together with their content libraries. The few companies that we are aware of that license pure asynchronous platforms independent of content include Eloquent, Tegrity and Lotus LearningSpace.

Asynchronous Delivery Platforms

Eloquent
Tegrity
Lotus LearningSpace

Source: Merrill Lynch Global Growth Group

40. Content

Content Companies

Comprehensive Content

BizQuiz
 Corpedia
 GeoLearning.com
 In2win
 ITC Learning Corp.
 KnowledgeNet
 Mindfire.com (Global Knowledge Network)
 MindQ (Knowledge Universe)
 National Technological University Corp.
 NIIT
 Ninth House
 Ontimettraining.com
 Payback Training Systems
 Performance Improvement
 PrimeLearning.com
 ProsoftTraining.com
 Provant
 Skillsoft
 Skillsonline.com
 SmartForce
 Strategic Management Group (SMGnet)
 ViaGrafix (Learn2.com)

Higher Ed Content

Caliber Learning Network
 Fathom
 National Technological University (NTU)
 Pensare
 UNext
 University Access

Vertical Content

Course Technology (Thompson's)
 MindLeaders.com (Formerly DPEC)
 Emind.com (Knowledge Universe)
 FIREOnlineTraining
 Learning Action
 Learning Insights
 National Technological University Corp.
 NETg
 Runzebra.com
 ZiffDavis

Source: Merrill Lynch Global Growth Group

Comprehensive Content – Reconceptualizing Learning As We Know It

Like many innovations in their early stages, much of what e-learning has meant to date is mainly repurposing existing content without reconceptualizing it to appreciate the dramatic improvements that the innovation could allow. The leading e-learning enterprises of tomorrow that ultimately realize the gigantic opportunity will be those that create a truly unique learning experience leveraging the power of the new medium.

How People Learn

Teach Others	90%
Learn By Doing	75%
Discussion Groups	50%
Demonstration	30%
Audio Visual	20%
Lecture	5%

Source: Andersen Consulting

Capturing and integrating the “human component” into an online learning solution is critical, yet difficult. One of the largest challenges of online learning is effectiveness, and to be effective on the Internet the learning experience must be engaging and interactive. Content must be presented in a manner that encourages individuals to read, observe, practice and experience learning in a meaningful and innovative manner.

While streaming video is an effective way to engage a learner and is preferred by many users, many do not yet have the “pipes” or bandwidth to deliver it. However, several companies have found innovative strategies and techniques to deliver the human element that technology learning solutions lack. The most basic is through the use of collaboration features, such as chat rooms and threaded discussions. Collaboration tools not only allow individuals to share ideas and learn from each other, but also to gather knowledge and disseminate it throughout an organization.

When evaluating solutions in the e-learning industry, there are several characteristics that we look for.

From an individual’s perspective, the e-learning solution must be:

- Easy to use** – As a new medium for learning, ease of use is an important, if not the most important, aspect of an online learning solution. Solutions that are browser-based, with no downloading, software or plug-ins required, tend to be the most user-friendly and desirable.
- Engaging user experience** – Online learning must be dynamic. The experience should be engaging and interactive, capturing the attention of the learner. Simply posting text on a website does not, in our opinion, constitute e-learning. We believe solutions that provide opportunity to interact with others via chat rooms and threaded discussions will have the most success.
- Personalized and customized** – To be effective, the learning experience must be personalized and customized to individual learning needs. This can be achieved in several ways. Online tutors have proven to be the most effective way to personalize courses as they provide an element of human interaction and allows individuals to get rapid responses to problems they may encounter. Pre-, during and post- testing also personalizes the learning experience, as it allows individuals to assess their needs and design a learning

program according to their competency. Ninth House, for example, utilizes technologies that allow the learning to be customized to the individual's preferred learning style.

- **Proven, High Quality Content** – Brands matter in knowledge services and on the Internet. Offline brand name corporate learning providers such as Ken Blanchard and Tom Peters are quickly entering the e-learning arena. At the same time, we are seeing the emergence of online companies such as DigitalThink, Skillsoft and eMind (formerly Yippinet) that are building their brand name based on quality content as well as inclusiveness and accessibility. Another type of brand-name content that has recently begun to penetrate the corporate market (made possible by the introduction of online learning) is coming from traditional brick-and-mortar universities and colleges. By using the capabilities of the Internet, brand-name schools, such as Stanford, Columbia University and the University of Chicago, are able to reach corporate employees as well as students abroad. e-Learning companies can use brand-name content as a key competitive advantage.

Many pure content owners, such as traditional instructor-led companies, as well as publishers and authors, are faced with a difficult market reality and realize that they need to find a way to embrace the new world of online learning quickly. As such, many are scrambling to “catch up” in the digital world, looking for technology partners to help bring their content to the web.

To help them in this transformation to the web, many content partners are looking to partner with technology companies, as both are looking for ways to deliver convenient, cost-effective online learning solutions. For example:

- Ken Blanchard, a well-recognized expert on corporate leadership and development, and Tom Peters, a well-known authority on evolving competitive business practices, have partnered with Ninth House to offer their content on its interactive and personalized Online Learning Network.
- Anthony Parinello, the best-selling author and sales expert, partnered with Pensare, a leading provider of Internet communities, to offer his content on Pensare's innovative Knowledge Community.
- New Horizons Computer Learning Center partnered with DigitalThink, allowing them to offer an online learning solution to complement their instructor led courses.

Many content partners are looking to partner with technology companies, as both are looking for ways to deliver convenient, cost-effective online learning solutions.

“Good management consists of showing average people how to do the work of superior people.”

*– John Rockefeller, Jr.
American oil magnate and philanthropist*

SmartForce and DigitalThink

SmartForce and DigitalThink are both leading providers of e-learning solutions, offering corporations a comprehensive solution that includes deployment, administration, content and support capabilities.

SmartForce, formerly CBT Systems, started in 1984 as a provider of computer-based learning and recently launched a new e-learning solutions platform, strategically repositioning itself as a leading provider of online learning solutions as opposed to a provider of software.

DigitalThink, founded in 1996, provides clients with a customized e-learning solution that combines the access of the Internet with high quality content and service.

The two companies are similar in many ways, as they both boast content as their strength and have won the endorsement of industry leaders. SmartForce is currently the largest provider of computer-based learning, twice the size of its nearest competitor, and has a head start in terms of content and customer relationships. SmartForce has a comprehensive library of over 1,100 titles and over 2,500 corporate clients worldwide. However, all of these customers to date, with the exception of a handful, are subscribers to its CD-ROM software products. The challenge SmartForce faces today is to successfully convert its clients over to its new e-learning platform. We believe interest will be high given the expected benefits of the new system (increased convenience and effectiveness) and its new features, including expert mentors, peer-to-

peer collaboration, expert-led virtual seminars and a myriad of learning options.

DigitalThink, as a new “born on the web” player, has generated considerable excitement in the marketplace, as it was one of the first to introduce a robust, scalable online e-learning solution. Founded just four years ago, DigitalThink has already developed over 200 courses, 150 e-learning solutions and delivered over 100,000 courses to a rapidly growing blue-chip customer list that include Adobe, Cisco Systems, Intel, Hewlett-Packard, KPMG, Seagate and Sun Microsystems.

While we think both are poised to take advantage of opportunities in the e-learning industry, the companies take slightly different approaches. DigitalThink offers a more customized e-learning solution, providing clients with off-the-shelf content, as well as comprehensive services to bring company-specific, proprietary content to the online platform. SmartForce’s solution is customizable and personal, enabling clients and individuals to tailor the site specifically to their learning needs based on their interests, career objectives and job profiles. Although it does not offer services to create proprietary content, SmartForce recently partnered with Macromedia, making Macromedia’s web publishing tools available on their website. Thus, clients and individuals now have the ability to add and design their own content for SmartForce’s e-learning platform.

SmartForce Background

Founded in 1984, SmartForce is widely recognized as the leader in technology-based education. Formerly CBT Systems, SmartForce has recently repositioned itself as an e-Learning provider by launching a new e-learning platform, as well as changing its name. Its new e-learning solution integrates technology and Internet-delivered learning, 24 x 7 access to expert mentors, peer to peer collaboration, expert-led virtual seminars and a myriad of learning options.

Partnerships: Check Point Software Technologies, Novell, Oracle, Informix, Rational, IBM, RSA Data Security, Intel, Dynamics, Marimba, Sybase, Microsoft, TIBCO, Netscape, VeriSign, Network Associates, Dell, SAP, Lotus, Cisco Security, Macromedia, Sun Microsystems, Hewlett-Packard, Security Dynamics, EarthWeb, Capella University and ProSoftTraining.com

Financial Backing:
Public: (Nasdaq: SMTF, D-1-1-9)

Key Clients: Unisys, Intel, Microsoft, Computer Science Associates, Whittman-Hart and Manpower

Metrics:

Number of Courses: 1,100
Number of Clients: 2,500
Backlog: \$222 million at March 31, 2000
Average Contract Value: \$110,000 at March 31, 2000

Source: Merrill Lynch and company documents.

DigitalThink Background

Founded in 1996, DigitalThink is a leader in designing, developing and deploying e-learning solutions to Fortune 1000 companies. The company offers a fully integrated solution that combines course content aligned with its clients’ business objectives, a compelling, results-oriented e-learning experience, and robust technologies that are fully outsourced.

Partnerships: KPMG Consulting, Microsoft, Adobe, Siebel, Cambridge Technology Partners, New Horizons Computer Learning Centers, Hungry Minds, Intraware, Trainingnet.com, Ariba, Skills for You, Lawson Software, University of Phoenix, BlueU.com, C|Net, Fatbrain.com and beyond.com.

Financial Backing:
Public: (Nasdaq: DTHK, Not Rated)
Private investors included Bankers Trust, Cambridge Technology Partners, ServiceMaster, Torstar, Intel Corporation, Walden Media & Information Technology Fund, Adobe Ventures, Texas Instruments Venture and Hambrecht & Quist.

Key Clients: Adobe, Cisco Systems, Intel, Hewlett-Packard, KPMG, Seagate and Sun Microsystems.

Metrics:

Number of Courses: ~230 at May 2000
Number of Clients: ~230 at May 2000
Deferred Revenue
Average Contract Value

Thomson Learning

Thomson Learning, owned by Thomson Corporation, provides teaching and learning content and solutions to individuals, learning institutions and corporations. It is focused on two major learning marketplaces – academic and lifelong learning and corporate training. The Academic Group serves secondary, post-secondary and graduate-level students, teachers and learning institutions with market-leading brands such as Brooks/Cole, Wadsworth Publishing and South-Western College Publishing. The Lifelong Learning and Corporate Training Group provides adult education and certification for paraprofessionals, training centers and individual learners; and corporate learning for technology professionals, chief information officers and employees seeking skills certifications. Well-known brands include Course Technology, Delmar Publishers and Peterson's. International operations represent 22% of Thomson Learning's revenues. Thomson Learning has operations in Asia, Europe, Australia, Latin America, Canada and the U.S.

Thomson Learning Network

Thomson Learning plans to leverage its strengths in the academic and lifelong learning and corporate learning marketplaces by offering a comprehensive solution to enable students and professionals to acquire the appropriate learning they need to prepare for tests, select schools, assess skills, acquire tutoring and certification, and job search, all on the Internet. The specific vertical markets targeted are information technology, business soft skills, skilled trades and healthcare, as well as the post-secondary and graduate student markets.

Thomson Learning already has in place an online core product offering in various segments of the market. Such products include:

Thomson Learning Online Store: Users can search for and purchase textbooks on this site, as well as find an online resource center at the store.

Peterson's: Users can download free test prep software. High school students are also able to pick a college, pay

for college, apply to college and prepare for college. Instructors can find many of the latest distance-learning courses and programs at this site.

Thomson Learning Custom Publishing: Instructors are able to build custom books for courses using Thomson Learning's database of textbook content – plus add their material, then download it to their PC in minutes to preview before ordering.

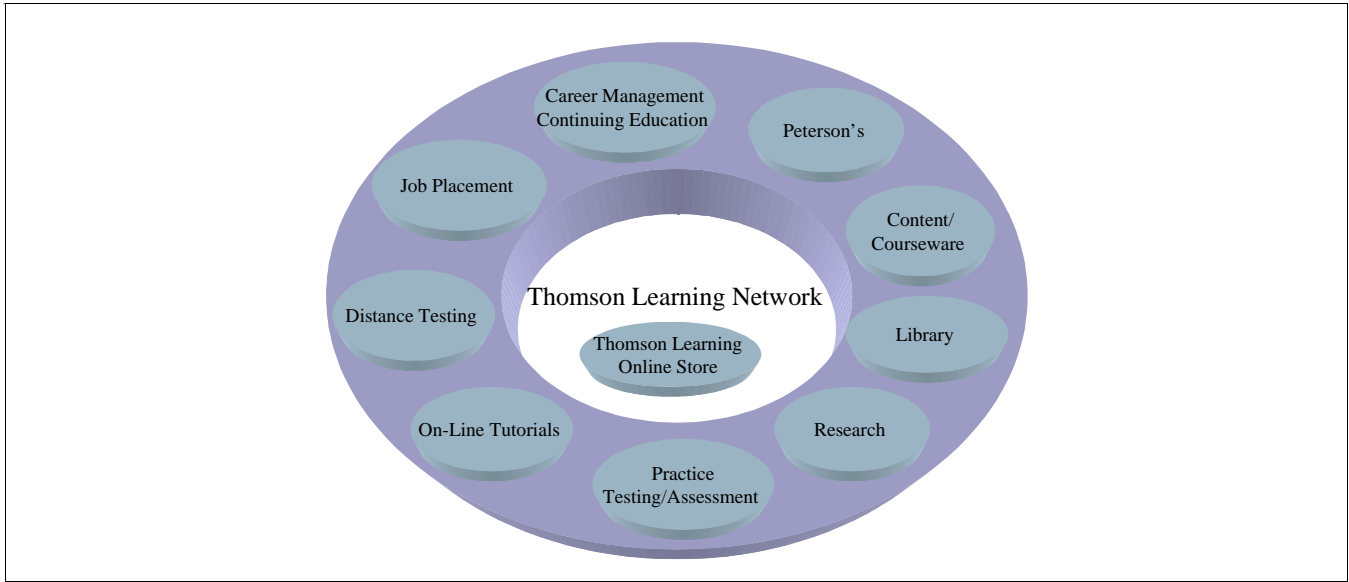
South-Western College Publishing – Wired Resumes: Wired Resumes help job seekers design and build resumes. It offers samples and online resources, as well as the ability to set up a personalized URL.

Delmar – Career Guidance Center and Test Prep & Assessment Center: Provides online resources in planning for a career in trades, technology, nursing, career education or cosmetology. Also provides the resources that a student or learner needs to find certification and certification test prep for specific professional career tracks, such as paralegal (NALA), nursing (NCLEX), automotive (ASE) and cosmetology, among others.

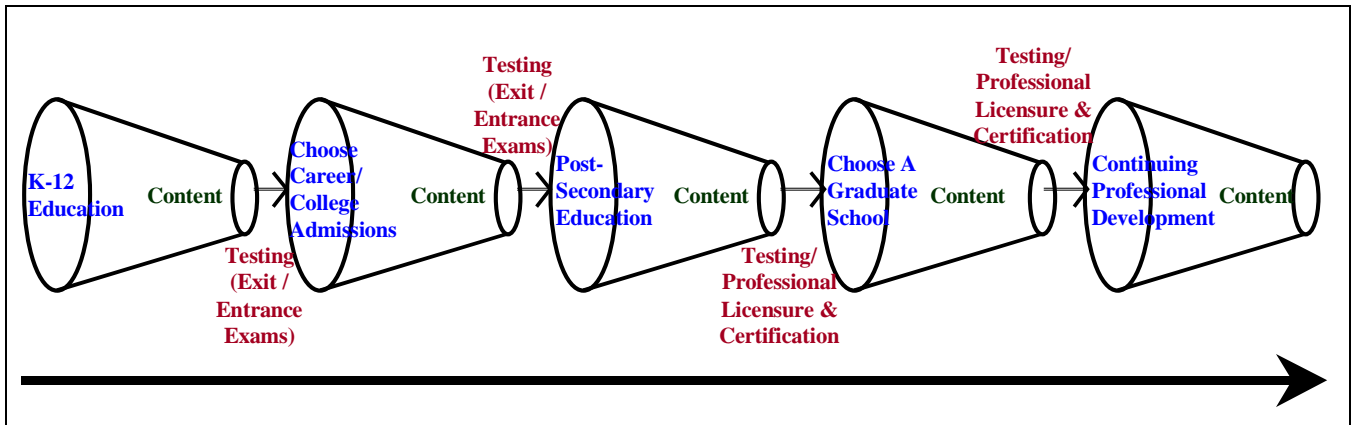
Prometric: A global leader in computer-based testing and assessment services delivering standardized tests and exams at 2,900 testing sites in 141 countries. Prometric carried out more than 3.5 million tests in 1999.

Thomson Learning plans to expand from its strong position in post-secondary education course materials (\$2.6 billion per annum market) to provide complete learning and testing/certification solutions for the fastest growing IT training and testing/certification market segments. Their strategy would be to offer a total workplace solution for corporate clients from training through testing/certification including test development. The company aims to own the lifelong learning value chain by integrating quality content with integrated testing/certifications, from high school through retirement, as illustrated in the model below.

Thomson Learning Network



Thomson Lifelong Learning "Funnel"



Founded: Thomson Learning 1999
Headquartered: Stamford, Connecticut
Public/Private: Part of Thomson Corp. (Toronto Stock Exchange: TOC)
URL: www.thomsonlearning.com
Claim to Fame: One of the world's largest lifelong learning Information companies
Key Investors: Wholly owned by Thomson Corp.
Key Partners: WebCT, Sylvan Learning Systems

1999A Revenue: Thomson Corp. \$3.9 B*
Learning Division \$501.9 M*

2000 E Revenue: Thomson Corp \$6.1 B

Market Value: \$20.7 billion* (5/15/00)

Revenue Components:

Content: X

Commerce: X

Advertising:

Service: X

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of users/students

Number of clients

Number of courses

Number of page views

*in \$US, Exchange rate: \$1US=\$1.48 Canadian

notHarvard.com

notHarvard.com is one of the first companies to leverage the power of eduCommerce, thus offering clients a complete business-to-business solution that enriches a company's brand and strengthens e-commerce opportunities. notHarvard is a pioneer in eduCommerce, which is an online education tool used as a powerful customer acquisition driver, as well as a sales and marketing weapon to drive greater stickiness, deeper customer intimacy and higher brand loyalty. In other words, notHarvard enables companies to go beyond giving out free recipes for Thanksgiving turkeys. notHarvard enables them to offer free high-quality courses taught by experts in the field in anything from preparing for a new baby to computer programming.

So far notHarvard.com has racked up an impressive list of clients and strategic partners. Clients include Bloomberg.com, Ask Jeeves.com and Jobs.com, as well as other leaders of their field. notHarvard has formed

strategic partnerships with web powerhouses Vignette and Exodus to deliver a safe and scalable platform. Today, the number of registered users of notHarvard.com's clients totals more than 20 million based on registered customers of the e-businesses who have signed on with notHarvard.com.

NotHarvard.com offers a syndication tool to maximize customer reach. With its FreeSchool EduCommerce Suite™ of software, clients can reach prospective and current customers as well as students in the greater community of notHarvard.com client universities. For example, a C++ programming course created for Metrowerks' CodeWarriorU.com can also be offered by Jobs.com's online university, enabling Metrowerks to reach out to Jobs.com clients and enhancing Jobs.com's customer value proposition. FreeSchool also provides for student/instructor interaction and student communities and features message boards and chat, calendar and notebook capabilities.

Founded: 1999

Headquartered: Austin, Texas

Public/Private: Private

URL: notharvard.com

Claim to Fame: Pioneer in eduCommerce, a B2B solution that strengthens clients' brand and drives customer acquisition

Key Investors: Austin Ventures, TL Ventures, Silicon Valley Bank

Key Partners: Vignette, Exodus

Key Clients: Bloomberg, Flextrader, Motorola\Metrowerks, Pervasive, Ask Jeeves.com, Talk City, Hire.com and Jobs.com

Revenue Components:

Content: X

Commerce: X

Advertising: X

Service:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of users/students: 20 million

Number of clients

Number of courses

Number of page views

Ninth House – The Broadband Learning Network

Ninth House is an innovative provider of interactive, online learning media to businesses and individuals, utilizing both the Internet and corporate intranets. Through its Ninth House Network (NHN), the company integrates the disciplines of technology, storytelling, movie production and entertainment to create and deliver a fully interactive, engaging learning experience. The company’s e-learning solution features Hollywood-quality storytelling, video-based interactive role playing, just-in-time performance support, personalized online mentors and peer communications, resulting in a personalized, highly interactive and engaging learning experience. Ninth House’s powerful solution has caught the attention of industry leaders such as Intel, Hewlett Packard, @Home, Texaco, Black & Decker and the U.S. Navy.

Ninth House has secured important exclusive relationships with premiere content providers, including Ken Blanchard and Tom Peters, as well as several additional authors and business leaders focused on employee development. Furthermore, Ninth House is extending its presence as a media network by incorporating content from a variety of diversified sources, including books (Jossey Bass), magazines (Fast Company), live events (Wyncom) and other specialized 3rd party partners.

Ninth House has established a significant early lead with an ambitious plan to utilize technology to build a media network focused on learning. The Ninth House Network will feature six channels focused in fundamental competencies such as leadership, communication and management. The Ninth House Network allows individuals to access a library of media-rich learning resources and experience personalized learning and communicate with other company learners to refine and improve their skills and performance.

Ninth House utilizes a time-tested pedagogy, media-rich content and web-based tools such as just-in-time advice and online virtual communities to create engaging, interactive and entertaining learning experiences. In order to increase long-term retention, Ninth House customizes each member’s learning experience according to his or her preferred learning style. Throughout their exploration of the network, a personal online mentor provides feedback and advice, carefully monitoring their progress and tracking their performance. Ninth House further leverages accelerated learning techniques by delivering a variety of engaging experiences, in the form of stories, puzzles, games, communities and interactive adventures not only to transfer knowledge but also to promote the practice and application of new ideas. This user experience is designed to provide a rich and effective learning experience in order to facilitate changes in professional behavior for each individual.

The Ninth House Network



The Ninth House Network consists of six channels:

- Channel 1: Leadership
- Channel 2: Management
- Channel 3: Team Effectiveness
- Channel 4: Communications
- Channel 5: Project Management
- Channel 6: Business Essentials

The network also features content from various sources, including books and magazines such as:

- The One Minute Manager
- THE WISDOM OF TEAMS
- THE FIFTH DISCIPLINE
- SHRINK PETERS
- THE CIRCLE OF INNOVATION
- High-Impact Hiring
- ON THE PROFESSION OF MANAGEMENT
- FAST COMPANY
- WOW
- YOU ARE YOUR PROJECTS
- WYNCOM PRESENTS: Big Ideas, Big Stars

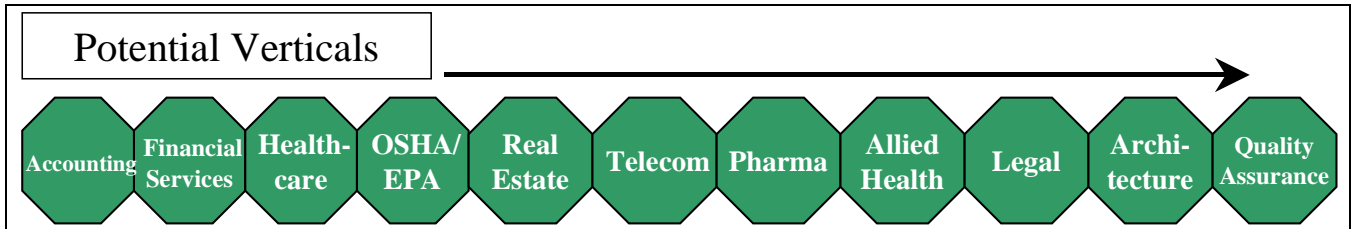
Source: Merrill Lynch

Ninth House	
Founded: 1996	1999A Revenues: Not Available
Headquartered: San Francisco, CA	2000E Revenues: Not Available
Public/Private: Private	Revenue Components:
URL: ninthhouse.com	Content: X
Claim to Fame: Creates and delivers movie-quality content via Broadband	Commerce: X
Key Clients: @Home, Hewlett Packard, Texaco, Black & Decker, Intel and the U.S. Navy	Advertising:
Key Strategic Partners: Dell, Cisco, 3Com, Microsoft and @Home	Service/Licensing:
	Other:
	Network Effect: Yes
	Hub/Portal Strategy: Yes
	Metrics to look for:
	Number of Users
	Number of Titles
	Number of Clients

■ **Vertically Focused Content Providers**

Expansion into various vertical markets represents an enormous opportunity for e-learning companies. By leveraging their business models into new vertical markets, and keeping focus on industries in which continuing learning is mandatory, e-learning companies can reap a significant revenue windfall.

Potential Vertical Markets



Source: Merrill Lynch Global Growth Group

Financial services – specifically accounting, banking, securities and insurance, represent an estimated \$5.5 billion in revenue and almost 7 million learners. Similarly, the healthcare industry – specifically physician’s offices, care facilities, hospitals, allied healthcare and pharmacists – represents approximately \$9.4 billion in revenues and potentially reaches an estimated additional 7 million learners.

“Personally, I’m always ready to learn, although I don’t always like being taught.”

– *Winston Churchill*

Financial services companies represent an estimated \$5.5 billion in revenue and almost 7 million learners. Similarly, the healthcare industry represents approximately \$9.4 billion in revenues and potentially reaches an estimated additional 7 million learners.

The real estate, telecommunications, legal and architecture markets combined represent a potential \$4.0 billion opportunity and more than 5 million users. The personal development and manufacturing industries alone represent a huge \$12.4 billion revenue opportunity and almost 16 million learners.

In addition to expanding into new verticals, e-learning enterprises can also broaden their reach into existing verticals through increased resources for certification, assessment and other learning.

Vertical Market Opportunities

Industry	Potential Revenue (\$ millions)	Estimated # of Learners
Accounting	721	913,000
Banking	2,247	2,844,000
Securities	705	893,000
Insurance	1,851	2,343,000
Physician Offices	1,464	1,853,000
Care Facilities	2,512	3,180,000
Hospitals	3,878	4,909,000
Allied Healthcare	780	987,000
Real Estate	1,162	1,470,000
Pharmacists	730	925,000
Telecommunications	1,383	1,751,000
Legal	768	972,000
Architecture	715	905,000
Personal Development	5,331	6,747,000
Manufacturing	7,023	8,890,000

Source: Merrill Lynch Global Growth Group

eMind.com – A Knowledge Vortal

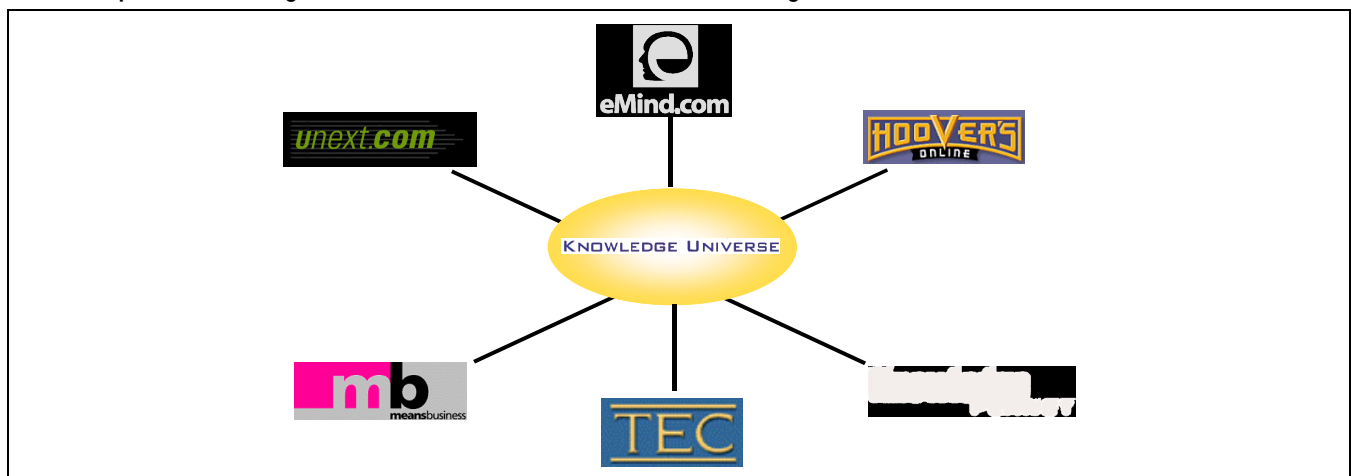
Founded in 1998 as Yipinet, eMind.com is a leading B2B e-knowledge services provider focusing on serving critical vertical markets in regulated industries, such as accounting, financial services, healthcare and law. The company has created a Knowledge Hub providing corporations with a full-service solution for professional development and continuous learning. Knowledge Hub features expert-rich accredited courses and support services, providing a relevant, timely and comprehensive solution for professionals. With an extensive library of more than 1,000 courses, eMind.com has already developed a number of primary verticals, including accounting, securities, insurance and banking, and expects to grow this base to over 25 verticals, including real estate, legal and telecom, representing 15 million learners.

With its focus on industries requiring periodic “mandatory” learning and certification, eMind.com has established a powerful vertical infomediary. Its content is

vertically focused and fully accredited. Content partners are leaders their respective fields, including NETg, Skillssoft, Grant Thornton and Umass Medical School. eMind.com also offers horizontally applicable content aimed at the IT world, as well as “soft skills” training and client courses.

eMind.com benefits from forces that both “push” and “pull” users to the site. Mandatory learning needs “push” knowledge workers to seek knowledge resources to satisfy the requirements of their jobs. The breadth and depth of the timely, relevant content offered by eMind.com “pulls” users specifically to its site. These push and pull forces drive network value and utilization, creating a highly visible and recurring stream of revenue. Membership in the Knowledge Universe keiretsu provides tremendous leverage by creating unique business opportunities to work with companies that share similar content, clients, practices and technologies.

Membership in the Knowledge Universe Network Provides Tremendous Leverage



Founded: 1998 (as Yipinet)

Headquartered: Los Angeles, California

Public/Private: Private

URL: emind.com

Claim to Fame: Membership in the Knowledge Universe keiretsu Provides tremendous leverage by creating unique business Opportunities to work with companies that share similar content, Clients, practices and technologies.

Key Investors: Knowledge Universe, Larry Ellison, Gary Winnick, Rader Reinfrank

Key Partners: Knowledge Universe, Onlinelearning.net, Hungry Minds, GAMA International, National Association of Enrolled Agents

Key Customers: CitiGroup, SunAmerica, Credit Lyonnais and Arthur Andersen

Revenue Components:

Content sales: X

Commerce: X

Advertising: X

Service:

Other (licensing):

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics to look for:

Number of Content Providers

Number of Commerce Partners

Number of Users

Number of Customers

Number and Amount of Transactions Through the Site

KeepSmart.com – Targeting Compulsory, Continuous Learning Needs

KeepSmart.com is a leading provider of Internet, electronic and multimedia-based knowledge services solutions to professionals in key vertical markets. KeepSmart provides educationally sound, technologically advanced on-line continuing professional education (CPE) to professionals with KCPE licensing requirements. KeepSmart was formed through the merger of four companies in 2000. The four divisions are Creative Visual Enterprises (CVE), Virtual Education Corporation (VEC), Lawline.com and RealNet Learning Services. Through these divisions, KeepSmart now serves the following vertical markets: Corporate Accounting and Financial Management, Accounts in Public Practice, Engineers, Attorneys, Real Estate Agents and Brokers, and Architects. KeepSmart produces and distributes content over the Internet and other delivery platforms, including DIRECTV’s digital satellite television network, video, CD-ROM, print and live instructor-led seminars. The company’s online presence is primarily accessible through these products:

The Financial Management Network (FMN) (fmnonline.com): Is a community oriented site for accounting and financial professionals that offers online continuing professional education (CPE) courses plus relevant industry information and career advice as well as links to job opportunities. This program is based on the nation’s leading corporate video accounting subscription program used by 1,200 companies.

The CPA Report (cpar.com): Provides established content and delivery mechanism along with FMN Online for a CPE center for accountants in public practice.

WileyVirtual.com: Wiley Virtual CPA Exam Review is a multimedia, Web-based course that includes 50 hours of streaming video and audio lectures. The course uses a

lecture format interspersed with graphic illustrations and has fully interactive problem-solving by participants.

Lawline.com: Offers continuing legal education in partnership with leading bar associations and other providers of legal education courses. The bar associations can use lawline.com as a course delivery tool to help their members fulfill annual continuing education requirements that lawyers must meet as a condition of retaining their license to practice.

RealNetLearning.com: Is the leading provider of knowledge services to the professional residential real estate vertical market, offering a portion of the mandatory new agent learning plus basic learning through Century 21 Online.

Virtual Education Company (virtualeducation.org): Is a leading online learning provider that recently formed alliances with the American Society of Civil Engineers, National Society of Professional Engineers (NSPE) and the American Consulting Engineers Council to develop and deliver Internet-based continuing education classes for engineers, architects, and other design professionals. All courses carry Professional Development Hour (PDH) credits for the maintenance of professional certifications.

Under development are Online Trading Academy, a series of introductory and advanced online courses for online stock traders, and continuing education for dentists.

KeepSmart has numerous strategic alliances, many of which assign KeepSmart the exclusive right to develop electronic courses sponsored and branded by their partners. These alliances give KeepSmart instant credibility and direct access to the societies’ membership and businesses’ established client base.

Founded: 1999	Revenue Components:
Headquartered: Hawthorne, New York	Content sales: X
Public/Private: Private	Commerce: X
URL: keepsmart.com	Advertising: X
Claim to Fame: KeepSmart is the VerticalNet of the professional education sector.	Service:
Investors: Patricof and individual investors	Other (licensing): X
Key Partners: National Society of Professional Engineers, Aubrey Daniels & Associates, Citigroup, Century 21, Coldwell Banker, Homestore.com, Financial Executives Institute (FEI), Institute of Management Accountants (IMA), John Wiley & Sons, New York County Law Association	Network Effect: Yes
	Hub/Portal Strategy: Yes
	Metrics to look for:
	Number of Content Providers
	Number of Commerce Partners
	Number of Users
	Number of Customers
	Number and Amount of Transactions Through the Site
Key Customers: 500 of the Fortune 1000 companies	

41. Assessment

In the knowledge economy, assessment is the currency in which skills are valued.

In the knowledge economy, assessment is the currency in which skills are valued. Post-secondary and corporate learning are transitioning from “seat time” and “credits” as a means toward earnings degrees and certifications to demonstration of competence as measured by valid and reliable tests / assessments. Similarly, demonstration of work-related competencies, particularly in technology-related professions is becoming the key criteria for getting or maintaining a job or promotion.

The 1999 ASTD (American Society of Training and Development) study of corporate training directors found the number one criteria for choosing a learning provider was the ability to prove that learning occurred and productivity improved as a result of the learning investment – that is, measurable ROI. Integrating learning content with testing / certification helps enable this to occur.

Targeted IT Training and Testing / Certification Market Segments

<u>Customer</u>	<u>Testing / Certification</u>
IT Professionals	\$1.8 Billion
Academic	\$1.2 Billion
Professional Licensure	<u>\$1.0 Billion</u>
	\$4.0 Billion

Source: International Data Corporation

The computer based testing / certification industry has grown dramatically over the past several years. Thomson’s recently purchased Prometric division is the clear market leader with over 90% market share. The IT testing / certification market is a \$8.4 billion market and is growing at 12%.

Companies Providing Testing / Certification

Company	Ownership	# of Centers
Prometric	Thomson	2,509
Virtual University Enterprises	National Computer Services	1,100
Computer Assisted Testing Service (CATS) (1)	Private	300
Computer Adaptive Testing	Houghton Mifflin	200
Assessment Systems, Inc.	Harcourt	0
Applied Measurement Professional	National Board for Respiratory Care	0
ACT, Inc.	Not-for-Profit	0
Brainbench	Private	0

(1) CATS primarily delivers FAA exams at airport locations.
 The last 4 companies develop tests as well as deliver / administer.
 Companies with "0" testing centers are primarily test developers and pay part-timer fees for test delivery / administration at public schools and other appropriate facilities. Most are paper and pencil tests.

Source: Merrill Lynch Global Growth Group

e-Learning companies that successfully integrate course content with testing and demonstrate a compelling ROI for corporations and learners will be the big winners.

Brainbench

The company's mission is to become the world's most respected online skills testing and certification authority. The focus of Brainbench is to help professionals rate their skills or earn credentials online and help companies obtain and manage the information they need to make intelligent hiring decisions and retain and develop the staff. The founders all come from the IT industry and have strong backgrounds in measurements, metrics, information technology and business.

Brainbench, a pioneer in online certification testing, tracks test results in a central certification repository. Using this approach, individuals can proactively take certification exams and have the results go into a single online transcript of certifications and test results. The individual has private access to this transcript and can control what is public. Then, the public transcript is made available to any e-recruiting site, through a variety of methods, for integration into their resume database or job application system.

All of Brainbench's skills assessments are web-based, eliminating configuration management and geographical issues. Brainbench provides high-quality, secure, computer-adaptive testing and related services to help businesses target their recruiting and learning. The company has knowledge tests in the following categories: Technical, financial, administrative, management, sales, customer service, job fit and more. In the hot IT sector, the company covers a range of subjects including HTML, C++, Linux, Oracle and general web knowledge. Currently, the company offers free registration and certification to users and fee-based testing to corporations. Brainbench's products and services include:

Brainbench Certification™: Offers comprehensive certification exams to companies and professionals using a patent-pending web-testing engine. Each month, over 200,000 professionals from 70 countries use Brainbench to earn credentials that help them demonstrate their knowledge to their employers. Certifications can be verified online. This program features online convenience, instant results, secure and computer-adaptive testing and is recognized by employers everywhere.

Brainbench Employment Assessments™: Provides assessment tools in the technical, financial, administrative, management, customer service and sales fields. Key features include online convenience, instant results (about 2 seconds), large list of current tests, secure and computer-adaptive testing, simple use and administration and guaranteed same-day setup.

Brainbench Candidate Database™: Enables clients to directly access a database of hundreds of thousands of qualified candidates – and more than 4,000 more candidate profiles are being added daily. Clients need only find those candidates who have tested in the skills they need, in the location they desire.

Brainbench Certified Knowledge Base™: Similar to quality process certifications, this service identifies and measures the organization's knowledge in competencies that are critical to the client's business. Certifications are earned by meeting certain knowledge levels using Brainbench certification tests. Key features include rapid assessment of an entire organization with web-based, self-administered exams, real-time executive reports, and audits to ensure consistent integrity levels.

Virtual Testing Center™: Enables clients to install a Virtual Test Center on their website to provide customers, employees or job candidates access to Brainbench's entire line of exams while maintaining the client site's look and feel.

Custom Certifications™: Can custom build a certification program to help customers reach the broadest possible audience through the web.

Advertising: Provides advertising packages to help target large, professional audiences.

The company's test volume is estimated at about 5000 exams per day as of March 2000. Brainbench expects to administer 6 million exams this year.

Brainbench Certifications™ are not affiliated with, approved by, or endorsed by any vendors of software products. They are a completely independent certification authority.

Brainbench	
Founded: 1998	Revenue Components:
Headquartered: Sterling, Virginia	Content: X
Public/Private: Private	Commerce:
URL: brainbench.com	Advertising: X
Claim to Fame: First-mover in online certification testing	Service: X (B2B and B2C)
Coollest Feature on the Website: free certification exam testing	Other:
Key Investors: Lycos Ventures LP, Steve Walker Associates Tritech Investors, Next Generation Fund	Network Effect: Yes
	Hub/Portal Strategy: No
Key Clients: Computer Science Corporation, Electronic Data Systems, Ernst & Young, J.P. Morgan, Romac International, Mindbank International, PriceWaterhouseCoopers, Mastech	Metrics:
	Number of unique users: 400,000 / 2,000,000 planned for 2000.
	Number of exams administered: 800,000 1999 / 6,000,000 planned for 2000. (1,000,000 achieved in Q1, 2000)
	Number of corporate clients: 200
	Number of courses/tests: 70 tests (at 3/16/00) plus 400 new planned for release in 2000.

We have created an e-learning solution scorecard that summarizes some of the key attributes we look for when evaluating companies in this industry. This scorecard would be used in concert with the e-Human Capital Solutions scorecard we presented in the introductory section (Part I) of *The Knowledge Web*.

e-Learning Solutions Score Card

Attribute	Potential Score
1 Ease of Use	15
2 Scalable, reliable and secure	15
3 Ease of Maintenance	15
4 Interactivity/Engaging	10
5 Strength of course-management capabilities	10
6 Integrate with other technologies/open architecture	10
7 Breadth and Depth of Program/Platform Features	10
8 Recurring, Predictable Revenues	5
9 Established Brand Name	5
10 First-Mover Advantage	5
Total Score	100

Higher Ed Enters the Corporate Market

Online learning has allowed new players such as the higher education institutions to enter the corporate learning market. We believe the demand for best in class, relevant content from higher education institutions in the corporate market is large and real. By taking the core competencies of academic institutions (knowledge, content and experience) and leveraging them onto the Internet, companies can create courses tailored for the corporate environment, providing employees with the learning they need, when they need it.

Three companies, in particular, that we believe are well-positioned to capture opportunity in the corporate learning market are UNext, Pensare and University Access. These companies are partnering with world-class higher education institutions, creating a comprehensive library of expert-rich online curriculum to

be marketed to corporations, and in some cases to students abroad and colleges and universities.

- **UNext.com** is partnering with Columbia University, Stanford University, University of Chicago, Carnegie Mellon and The London School of Economics to create an elite online academic institution, Cardean University, specifically designed to serve the needs of Fortune 500 companies, as well as individuals abroad. Cardean University students will have access to the latest academic theories from leading authorities in the areas of accounting, finance, marketing, organization development and international business. Employees from around the world can learn from distinguished professors, such as Nobel Laureates Kenneth Arrow, Gary Becker and Merton Miller, and from prominent institutions such as Stanford, Columbia and the University of Chicago. In addition, UNext has created courses that are specifically designed to take advantage of the power of the Internet. The company has invested significant resources and time to create a “learn by doing” experience, developing a dynamic interactive virtual environment where individuals become actively engaged and captivated by the curriculum and learn in a truly innovative and meaningful manner.
- **Pensare** has signed a partnership with Duke University’s Fuqua School of Business to produce, deliver and market a new online accredited MBA program. To add to its curriculum offerings, Pensare has partnerships with Harvard Business School Publishing, The Wharton School, best-selling author and sales expert Anthony Parinello and the University of Southern California’s Annenberg Center for Communication. One of Pensare’s core competencies is its technology platform – enabling it to create robust “knowledge communities.” These communities provide expert-rich curricula, and allow for the generation of new information and knowledge through exercises, case studies, discussion boards and threaded discussions. Most importantly, the platform facilitates the widespread dissemination of information, allowing individuals to share best practices and learn from each other.
- **University Access** differentiates itself in its focus solely on business management knowledge services, serving the needs of the academic and corporate markets. University Access is partnering with Kenan-Flagler Business School at UNC-Chapel Hill to create a global Corporate MBA (CMBA). The CMBA provides a return on investment to its clients with students working on a consulting project relevant and specific to each respective corporation. University Access is also partnered with the London Business School and USC’s Marshall School of Business, among others, to create graduate and executive education programs. In addition to executive education programs, University Access is providing a complete management education program designed to serve the needs of its corporate clients at every level, comprising Business Knowledge Curriculum, Executive Excellence Curriculum, Boot Camps, Online Executive Seminars and Custom and Partner Programs.

“A great deal of learning can be packed into an empty head.”

– Carl Krauss (1874 – 1936)

“Born on the Web” Universities Tapping into the Corporate Market

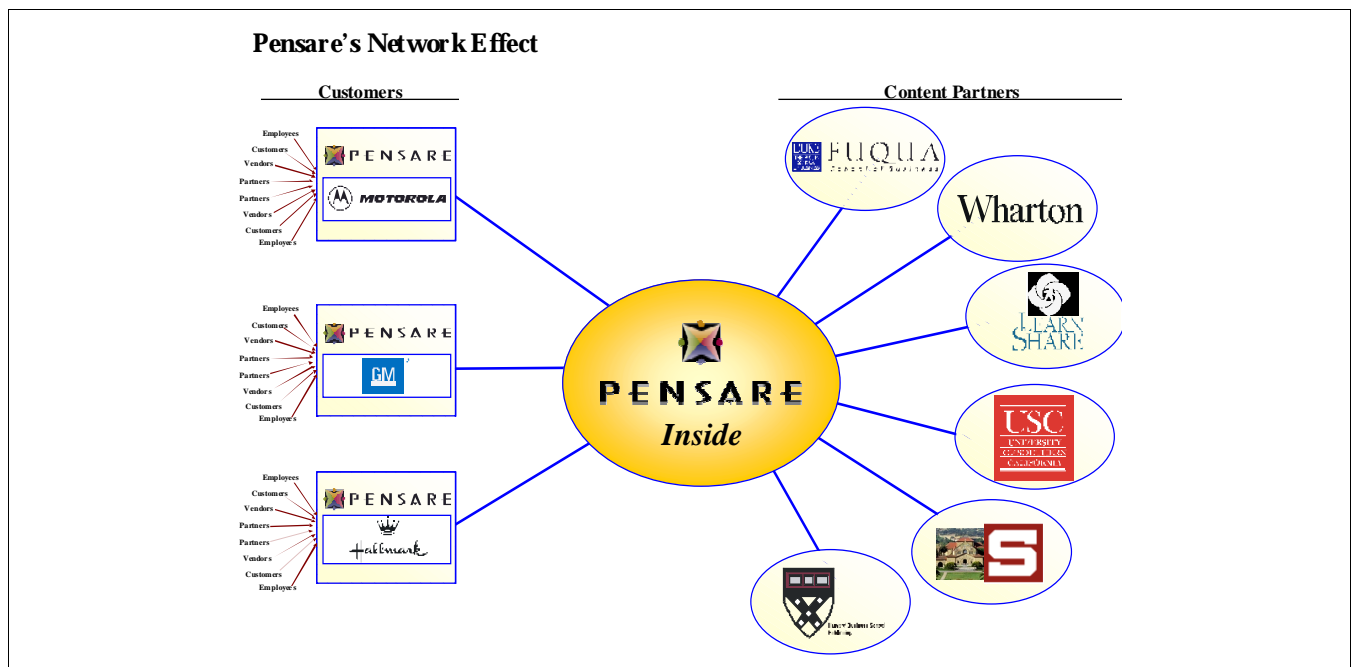
Company	Key Partnerships	Strategy	Claim to Fame	Customers
UNext.com	Columbia University, Stanford University, the University of Chicago, Carnegie Mellon and The London School of Economics	To become a globally recognized, brand-name, virtual university serving the learning needs of corporate employees and students abroad.	<ul style="list-style-type: none"> • Involvement of distinguished professors such as Nobel Laureates Kenneth Arrow, Gary Becker and Merton Miller • Creation of a "Learn by Doing" Experience 	Corporations/Employees Individuals Students Abroad
Pensare	Duke University's Fuqua School of Business, Harvard Business School Publishing, The Wharton School and University of Southern California's Annenberg Center for Communication.	To create "knowledge communities" featuring brand-name, expert-rich content from leading universities such as Duke University's Fuqua School of Business and industry experts. In addition, the company plans to be a provider of expert-rich content and technology solutions (Open MBA toolkit) to colleges and universities.	<ul style="list-style-type: none"> • Joint Venture with Duke University's Fuqua School of Business • "Knowledge Communities" Platform • Open MBA Toolkit 	Corporations/Employees Academic Institutions
University Access	University of North Carolina at Chapel Hill's Kenan-Flagler Business School, The London Business School, the University of California at Los Angeles, the University of Chicago, the University of Southern California and Indiana University	To be the provider of expert-rich online learning curriculum to academic institutions and corporations.	<ul style="list-style-type: none"> • Partnership with University of North Carolina at Chapel Hill's Kenan-Flagler Business School to create an e-MBA as well as customized corporate MBA program. • Award winning teleweb courses • Established presence in higher education market as a provider of online learning curriculum 	Academic Institutions Corporations/Employees
Caliber Learning Network (Nasdaq: CLBR, Not Rated)	The Wharton School, Georgetown University, University of Southern California Marshall School of Business, Teachers College at Columbia University, and Johns Hopkins University School of Medicine and School of Professional Studies in Business and Education.	To extend the best qualities of a superior live classroom experience across distances and enable its corporate clients to transform their traditional classroom programs either for live Internet broadcast to classrooms, workplace desktops or home PCs or for on-demand access.	<ul style="list-style-type: none"> • Formed as a joint venture between Sylvan Learning and MCI WorldCom to provide consulting and telecommunications services to businesses, enabling them to transform their traditional learning content to the Web and for transmission via other electronic media 	Corporations/Employees Classroom Teachers Physician Executives
National Technologic University	50 of the top Engineering schools in the United States including the Massachusetts Institute of Technology, University of California, Berkeley and Michigan State University	To provide the "best of the best" programs in each discipline of engineering broadcast through the internet or satellite	<ul style="list-style-type: none"> • Offers fully accredited courses from an alliance of large, prestigious technical education and training providers 	International Students Individuals and Corporations Government Agencies Academic Institutions
Global Education Network	Has approached many top-notch liberal arts schools, including Williams College and Brown University	To provide the best, most comprehensive on-line liberal arts education for adults	<ul style="list-style-type: none"> • Co-founded by Herb Allen, the President of the investment bank and venture capital firm Allen & Co., will offer a fully accredited liberal arts education to adults 	Adult students

Source: Merrill Lynch Global Growth Group

Pensare – the global knowledge network

Pensare is a leading global knowledge network poised to excel in the large and growing e-learning industry. Its offerings enable corporations and institutions to bring their learning online, effectively capturing the convergence of technology, the Internet and learning. Pensare's platform and content create a state-of-the-art experience where individuals gain the skills necessary to survive and thrive in today's knowledge-based economy.

Pensare offers blue chip customers, such as Hallmark, Ernst & Young, Unisys and leading universities across the country, an elegant, effective solution to their online learning needs. By combining the access of the Internet with "best of breed" content and first class service, Pensare provides a complete end-to-end scalable solution enabling corporations and institutions to bring their learning online and exploit the power of the Internet.



To illustrate, Pensare has formed a pioneering alliance with Duke University's Fuqua School of Business, ranked among the best business schools in the world, to co-produce and deliver a newly accredited Duke online MBA program. The relationship affords Duke the opportunity to leverage its world-class content worldwide, enhancing its brand and driving incremental revenue. Pensare gains exclusive distribution rights to the jointly developed curriculum for resale among its corporate customers and other business schools. Pensare will provide the Internet-based technology platform, produce the courses in an online format and provide ongoing support.

Pensare's partnership with Duke also calls for the development of an Open MBA Toolkit that can be used by

other business schools and degree-granting organizations to offer their own accredited MBAs and certificate programs. The Toolkit will help these institutions to enter the Internet-enabled accredited education market in a fraction of the time it would take them to do it on their own.

Pensare will be combining Duke's existing delivery system with its own Knowledge Community platform to create a state-of-the-art learning ecosystem for students, instructors, working professionals and corporations. The Pensare solution leverages the full power of the Internet by incorporating knowledge capture and sharing, multi-user simulations, online discussion groups and interactive exercises. Pensare fosters collaboration and best-practices, and results can be measured using real-world metrics.

Pensare	
Founded: 1996	Revenue Components:
Headquartered: Los Altos, CA	Content: X
Public/Private: Private	Commerce: X
URL: pensare.com	Advertising:
Claim to Fame: Partners with top business schools and corporations to offer and end-to-end solutions for e-learning.	Service/Licensing: X
	Other:
Key Clients: Unisys, General Electric, Hallmark, Fujitsu, Intel, Equistar, P & G, Tommy Hilfiger, Motorola, Harvard Business School Publishing, The Wharton School, Stanford University, University of Southern California, Duke University	Network Effect: Yes
	Hub/Portal Strategy: No
Key Strategic Partners/Investors: AVI Management Partners; Media Technology Ventures; Imperial Ventures; Battery Ventures; GE Capital; WR Hambrecht	Metrics to look for:
	Number of Users
	Number of Content Partners
	Number of Courses

Making the “.com” Transition – The Innovator’s Dilemma

The Internet has become a driving force within corporations, changing the way they do business, with online learning being a critical and exploding area of adoption. Not surprisingly, we are seeing several traditional offline companies scrambling for a “.com” strategy, but not without difficulty. The transition online for many is complex and requires companies to essentially redefine themselves in a new medium, adopting, in some cases, new products, distribution channels and entirely new ways of conducting business.

The essence of the Internet is speed, and first-mover advantage is critical.

Some traditional companies are approaching the Internet opportunity cautiously, conducting extensive market research and pilot programs before making a big commitment. While this conservative strategy may have proved effective before, it no longer applies in the age of the Internet. The essence of the Internet is speed, and first-mover advantage is critical. Accordingly, adopting a “wait and see” approach will only, in our opinion, open doors to more nimble “born on the web” companies.

We believe the Internet poses significant challenges to public companies, as they may not be able to make the significant investments needed to execute on a successful online strategy due to the pressure to stay profitable. Yet, at the same time, they are criticized for not moving online fast enough.

Despite the difficulties, the move into the world of “.com” is inevitable by traditional companies, and we believe investors over time will be more patient and tolerant of the transition. There are several knowledge service companies that have made the move online. One company, in particular, that has been successful in reinventing itself from an offline to an online company is Smartforce.

“Even if you are on the right track, you’ll get run over if you just sit there.”

– Will Rogers

SmartForce – Offering End-to-End e-Learning Solutions

SmartForce (formerly CBT Systems) is a leading provider of e-learning solutions. The company has historically focused on developing computer-based (CD-ROM) corporate learning. However, in October 1999, SmartForce announced a new e-learning strategy, repositioning itself from being a courseware vendor to a provider of a fully integrated, Internet-based e-learning solutions. To reflect its new direction, the company changed its name from CBT Systems to SmartForce and adopted a new accounting policy that required it to recognize revenues over a period of time, rather than at the point of sale. Shares declined nearly 40% in response to the announcement. However, within 50 days the stock rebounded to pre-announcement levels as the company began to deliver on the strategy and investors began to understand its wisdom.

SmartForce works closely with each enterprise customer to create a tailored e-learning solution customized to its business objectives, mission, and identity. Enterprise customers receive an end-to-end e-Learning environment that integrates technology and Internet-delivered learning, 24 x 7 access to expert mentors, peer-to-peer collaboration, expert-led virtual seminars and a myriad of learning options – often including their in-house courseware. SmartForce also provides e-learning directly to individuals via mass-customized Internet delivery.

Since its strategic repositioning as a provider of e-learning solutions, SmartForce has gained considerable momentum, announcing several exciting agreements with significant industry leaders such as Microsoft, Macromedia, Cisco, and Dell. Furthermore, the company has signed a multi-year \$17-million contract with one of the Big Five consulting and systems integration firms, illustrating strong demand for its e-learning solutions.

SmartForce is aggressively enhancing its product line and announcing new acquisitions and partnerships.

Advanced Educational Systems: The company recently acquired Advanced Educational Systems (AES), a provider of e-testing services over the Internet. AES provides services that allow companies to administer web-based, proctored certification and compliance testing, and enable clients to easily track testing results and generate management reports.

ProsoftTraining.com Partnership: The partnership with ProsoftTraining.com enables SmartForce to offer

education and certification programs for Internet and Linux professionals. Prosoft's Certified Internet Webmaster (CIW) offering is the industry-leading certification program for Internet professionals. SmartForce and Prosoft have agreed to jointly create a wide-ranging e-learning offering around the Prosoft vendor-neutral CIW certification.

EarthWeb Partnership: SmartForce has agreed to subscribe to and provide clients access to EarthWeb's Support Source, a premier knowledge-based reference library for IT professionals that provides instant answers to technical questions. It is used by leading IT and helpdesk professionals worldwide for multi-vendor service and support information by searching over 200,000 reference documents.

In addition, SmartForce announced two e-Learning initiatives that we believe demonstrate its leadership in the space and its ability to innovate products targeted at the needs of the new economy. First, SmartForce announced its e-Learning object strategy, which, in layman's terms, means it has broken down its e-Learning offerings into discreet units which can be reconstructed into customized solutions for each client. The technology should enable SmartForce to offer entirely unique e-Learning applications for each customer that are precisely targeted to their needs. The technology also enables each learner at a particular client to create a personalized path through the application, providing them with a rich, highly focused learning environment.

Second, the first set of applications using the new e-Learning object technology will be SmartForce's offerings targeted at e-Business. These products are designed to help companies re-tool for the new economy and build expertise within their organizations to succeed in e-business. The applications will be focused on professionals in virtually every business function, including strategy, network design, product development, supply chain management, network security, web development, IT infrastructure, certification and more.

As one of the largest providers of corporate learning, with over 2,500 corporate clients worldwide and a comprehensive library of over 1,100 titles, we believe SmartForce is well positioned in the rapidly growing e-learning industry. SmartForce has a major global presence, with sales offices or distributors in 26 countries.

SmartForce

Founded: 1984

Headquartered: Redwood City, CA

Public/Private: Public (Nasdaq: SMTF, D-1-1-9)

URL: smartforce.com

Claim to Fame: Largest provider of computer-based learning with a successful transition to Internet-based learning

Key Clients: Unisys, Intel, Microsoft, Computer Science Associates, Whittman-Hart and Manpower

Key Strategic Partners: Check Point Software Technologies, Novell Systems, Oracle, Informix, Rational, IBM, RSA Data Security, Intel, Dynamics, Marimba, Sybase, Microsoft, TIBCO, Netscape, VeriSign, Network Associates, Dell, SAP, Lotus, Cisco Security, Macromedia, Sun Microsystems, Hewlett-Packard, Security Dynamics, EarthWeb, Capella University and ProSoftTraining.com

1999A Revenues: \$198 million

2000E Revenues: \$155 million

2001E Revenues: \$260 million

Market Value: \$2.3 billion (5/15/00)

Revenue Components:

Content: X

Commerce: X

Advertising: X

Service/Licensing: X

Other:

Network Effect: Yes

Hub/Portal Strategy: Yes

Metrics:

Number of Courses: 1,100

Number of Clients: 2,500

Backlog and Deferred Revenue

Average Contract Value

Learning Tree, Inc. – Firmly Rooted in the IT Learning Market

Learning Tree is a leading global provider of vendor-independent, instructor-led learning for IT professionals. Its high quality client base includes numerous Fortune 1000 and government institutions. Learning Tree develops and markets a broad, proprietary library of 143 instructor-led courses focused on client/server systems, intranet/Internet technologies, computer networks, operating systems, programming languages, graphical user interfaces, object-oriented technology and IT management. It primarily delivers courses through a dozen of its leased “education centers” around the world. The company also provides customized courses for individual clients and can deliver both customized and general courses at the client site. Its 800+ instructors are all industry professionals with real-world expertise.

Learning Tree’s SkillsTree service provides assessment for clients’ employees. The company also provides testing and certification for IT workers through 31 professional certification programs. The American Council on Education has accredited its courses, which are recognized by more than 1,500 universities and colleges.

Last year, the company discontinued its unprofitable CD-ROM product line to focus its efforts on developing an online learning strategy. Learning Tree just recently

completed beta-testing of its first e-learning course and plans to begin marketing it immediately. Its strategy is to convert a handful of its courses to e-learning content over the next two quarters and then pursue rapid conversion beginning in 2001.

The company views Internet-delivered courses as a complement to, rather than a substitute for, its highly successful instructor-led courses. For example, Learning Tree offers its clients the freedom to use its multiple-course enrollment programs, including Training Passports and Training Vouchers, for participation in both classroom and Internet-delivered courses. Learning Tree plans to design its e-learning courses with a “structured asynchronous” format in mind, enabling students to take courses when and where they want, but in a structured environment where they must meet certain milestones and timetables. Other companies have had success using this type of environment to encourage course completion. Learning Tree has chosen Eduprise as its technology solution for e-Learning, although the relationship is not exclusive. We think the company has a significant opportunity to leverage its global brand, 3,700 hours of course content, 800+ instructors and substantial marketing resources on the Internet.

Founded: 1974

Headquartered: Los Angeles, CA

Public/Private: Public (Nasdaq: LTRE, D-2-2-9)

URL: learningtree.com

Claim to Fame: Learning Tree is vendor-independent, meaning it Provides unbiased learning to IT professionals. The company presents even-handed treatment of the pros and cons of new products and Technology, and students learn about third-party alternatives that the vendors themselves might never tell them about.

Key Clients: U.S. Army, AT&T, Boeing, EDS, Mobil, Intel, IBM, J.P. Morgan, Visa, Xerox, Hewlett Packard, Credit Lyonnais, BT, NatWest Bank, Hitachi, Siemens, British Gas, Peugeot Citroen

CY1999A Revenues: \$194 million

CY2000E Revenues: \$228 million

CY2001E Revenues: \$271 million

Market Value: \$1.1 billion (5/15/00)

Revenue Components:

Content: X

Commerce:

Advertising:

Service/Licensing: X

Other:

Network Effect: NA

Hub/Portal Strategy: No

Metrics to look for:

Number of Courses: 143 courses, 3,700 hours of content

Number of Clients: 15,000+ (historical)

Number of Students: 800,000+ students (historical)

Backlog and Deferred Revenue

Provant – Bricks & Clicks

Based in Boston, Provant is a leading provider of performance improvement corporate learning to Fortune 1000 companies and government agencies. The company boasts one of the most extensive libraries of performance-improvement content. Products and services range from basic training, such as customer service, leadership and communication training, to more specific, unique training, such as employee selection, managing change and diversity training.

At the same time, the company has a significant amount of technology assets including a powerful simulation product and robust learning management system. Uniting the two – its content with technology – will allow Provant to provide clients with a flexible and effective learning solution, one that combines instructor-led with online learning. We believe Provant is well-positioned to take advantage of opportunities in the online learning space.

Founded: 1998	CY1999E Revenues: \$211 million
Headquartered: Boston, Massachusetts	CY2000E Revenues: \$232 million
Public/Private: Public (Nasdaq: POV, D-3-2-9)	CY2001E Revenues: \$249 million
URL: provant.com	Market Cap: \$106 million (5/15/00)
Claim to Fame: Relationship with 250 of the Fortune 500 companies	Revenue Components:
	Content: X
	Commerce: X
	Advertising:
	Service/Licensing: X
	Other:
	Network Effect: No
	Hub/Portal Strategy: No
Key Clients: Home Depot, Kmart, Blockbuster, Motorola	Metrics:
	Number of Customers
	Type of Corporate Learning

English as a Second Language

ESL Services on the Net

- www.globalenglish.com
- www.peakenglish.com
- <http://englishlive.ef.com>
- www.nll.co.uk
- www.freeenglish.com/english/index.html
- www.english-to-go.com
- www.berlitz.com
- www.parlo.com
- www.eslcafe.com
- www.esl-lab.com
- www.doronet.ne.jp
- www.englishpractice.com
- www.planetLingo.com

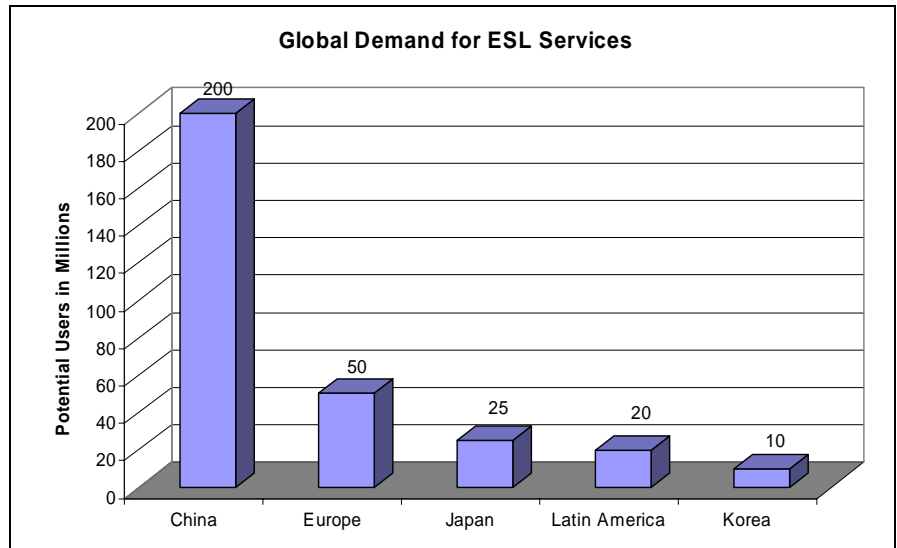
English is the world’s business language, and globalization is driving more people to learn to speak it. There are more than one billion people in the world currently studying the English language. The market is over \$50 billion now, but is expected to accelerate its growth when more accessible and flexible services become available. The Internet can deliver this flexibility and bring instruction costs way down, making it far more accessible to potential learners.

Recent studies indicate that non-English speaking countries with developed or developing economies place a high value on English speakers in their societies. Increasingly, English competency is required to advance socially, academically and professionally. The global demand for affordable ESL services is substantial.

“If you can speak 3 languages, you’re trilingual. If you can speak 2 languages, you’re bilingual. If you can only speak one language, you’re American.”

– Anonymous

The Global Market for ESL Services is Enormous



Source: planetLingo.com

GlobalEnglish Corporation

GlobalEnglish’s mission is to develop the highest quality, most effective online English language instruction service and distribute that service worldwide. The founders of GlobalEnglish Corporation are dedicated to education and have a successful history in educational software, online services, and multimedia foreign language instruction. During the last fifteen years, they have developed and managed three successful educational technology companies.

GlobalEnglish is a leading site on the Internet for learning English, offering a comprehensive curriculum in both business and general English for a wide variety of English language learners. The company’s approach utilizes both proven pedagogy and innovative language-acquisition

tools available on the Internet and through computer technology. GlobalEnglish believes this combined approach accelerates and improves English language-learning success.

GlobalEnglish emphasizes speaking and listening comprehension skills but is designed to provide a balanced improvement in all learning skills – reading, writing, speaking and listening comprehension. The instructional program combines the respective advantages of text, audio, graphics and animation, record/playback and speech recognition to simulate real-life English language communication experiences.

Founded: 1997	1999E Revenues: NA
Headquartered: Daly City, CA	2000E Revenues: NA
Public/Private: Private	Revenue Components:
URL: globalenglish.com	Content Sales: X
	Commerce: X
Coollest Feature on the Web: "Slang Word of the Day" link	Advertising:
	Service :
Investors: Mayfield Fund, Investor Group of Santa Barbara	Other: X
	Hub/Portal Strategy: Yes
	Network Effect: Yes
	Metrics to look for:
	Number of users

Englishtown.com

Englishtown is a comprehensive website for learning English. The site offers users extensive free resources for learning English, including onsite activities, teacher-led classes, and resource directories for both students and teachers. Englishtown is an independent subsidiary of EF Education, the world's largest private educational institution. Englishtown divides up its curriculum into 5 distinct sections:

School: Everything a local language school offers: qualified instructors, classes with other students, listening and speaking exercises plus total flexibility. One can study at their own pace, 24 hours a day, from anywhere in the world.

Community: One can use the Englishtown site to chat with members from over 100 countries. In addition, the company's bulletin boards offer grammar tips and current events, and there are word games and crossword puzzles to keep the learning fun. People can even use Englishtown to help find a pen pal.

Tests: The EF Standard English Test is an excellent way to document progress in English for academic evaluators and future employers. A corporate testing program enables the company to evaluate the English ability of a whole company.

Resources: Englishtown can help find just about anything relating to English. The website contains an online dictionary, dozens of great English-related products and services to buy, as well as resource guides to download – everything from study abroad organizations to Internet courses.

Teachers: Englishtown.com can be used in the classroom. Englishtown's teacher section allows instructors of English from around the world to meet and share resources. In addition to bulletin boards and chat forums, there's an online resource library of classroom materials, job listings and links to other teacher sites.

Founded: 1997

Headquartered: Cambridge, MA

Public/Private: Private

URL: englishtown.com

Coollest Feature on the Web: Practice English with other students
From all over the world

Metrics to look for:

Number of users

Number of visits per time period

Average time spend on site during visit

1999E Revenues: NA

2000E Revenues: NA

Revenue Components:

Content Sales: X

Commerce: X

Advertising:

Service :

Other: X

Hub/Portal Strategy: Yes

Network Effect: Yes

planetLingo.com

planetLingo is creating a suite of Web services that will unlock the Internet to voice. Its intelligent dialogue systems facilitate man/machine interaction through speech. The services it initially launches are designed to address the global need to speak English effectively and with confidence. planetLingo’s dialogue products and services have the potential to revolutionize the huge English as a

Global Language (EGL) market by allowing users to practice their English conversation when and where they want. Future additional uses for the Company’s technologies could include voice & mobile portals, information retrieval, voice e-commerce and revolutionizing customer sales & support through any Web-enabled device.

Founded: 1997	1999E Revenues: NA
Headquartered: Los Angeles, CA	2000E Revenues: NA
Public/Private: Private	Revenue Components:
URL: planetlingo.com	Content Sales: X
Key Investors: Flanders Language Valley Fund, Intel, GE Capital, William Simon & Sons, Baring Communication Equity (Asia-Pacific), Baring Private Equity Partners	Commerce: X
	Advertising:
	Service :
Metrics to look for: Number of users, Frequency of visits, Time spent on site per visit	Other: X
	Hub/Portal Strategy: Yes
	Network Effect: Yes

Select Company Profiles in this Section

Company Name	Page Number
click2learn.com	253
Acadio	255
Brainbench	275
CBM Tech.	249
DigitalThink	263
Docent	248
EMind.com	271
Englishtown.com	287
GlobalEnglish.com	286
Headlight.com	254
Hungry Minds	257
KeepSmart.com	272
KnowledgePlanet	247
Learning Tree	283
Ninth House	268
NotHarvard.com	267
Pensare	279
PlanetLingo.com	288
Provant	284
Saba Software	246
SmartForce	263, 281
Thomson Learning	264
Trainingnet.com	256

Index of Corporate e-Learning Companies

Content		Systems / Infrastructure / Tools (cont.)	
Information Technology	Ticker	Total e-Learning Outsourcers	Ticker
Course Technology (Thompson's)	Private	DigitalThink	DTHK
MindLeaders.com	Private	KnowledgeNet	Private
GeoLearning.com	Private	SmartForce	SMTF
ITC Learning Corp.	Private	Learning Byte International	Private
KnowledgeNet	Private	Cognitive Arts	Private
mindfire.com (Global Knowledge Network)	Private	Learning Management Systems	
MindQ (Knowledge Universe)	Private	Arista Knowledge Systems	Private
National Technological University Corp.	Private	Docent	Private
NETG	Private	Infotec Commercial Systems	Private
NIT	Private	Ingenium (Click2Learn)	CLKS
SmartForce.com	SMTF	Intralearn	Private
VCampus	VCMP	Knowledge Navigators	Private
ZiffDavis	ZD	Knowledgeplanet (Knowledge Universe)	Private
Viagrafix (Learn2.com)	LTWO	KnowledgeSoft (Knowledge Universe)	Private
Performance Improvement		Librarian (Click2Learn)	CLKS
Ninth House Network	Private	Manager's Edge (Allen Communication)	Private
Corpedia	Private	Pathlore Software	Private
SkillSoft	SKIL	Pathware (Lotus)	Subsidiary
Payback Training Systems	Private	Phoenix	Private
Onlinetraining.com	Private	Pinnacle Multimedia	Private
In2Win	Private	SABA Software	SABA
BizQuiz	Private	Southrock	Private
Provant	POVT	SYSCOM	Private
Higher Education Content		Teamscape Learning Portal	Private
Pensare	Private	Telemachus (Knowledge Universe)	Private
UNext	Private	VCampus	VCMP
University Access	Private	VuePoint	Private
Industry Specific		WBT Manager	Private
emind.com (Knowledge Universe)	Private	Community	
FIREOnline Training	Private	about.com	Private
Learning Action	Private	Dreamlife	Private
Learning Insights	Private	How 2	Private
National Technological University Corp.	Private	HR Hub	Private
Systems / Infrastructure / Tools		HungryMinds	Private
Authoring Tools		Jones.com	Private
Allen Communications (Gilat Communications)	GILTF	Learn2.com	LTWO
Click2Learn.com	CLKS	LibrarE.com	Private
Macromedia	MACR	The Learning Network	Private
Generation 21 (Advantage Learning)	ALSI	Lakewood Publishing	Private
Synchronous Delivery Tools		TrainingSupersite.com	Private
Centra Software	CNTR	Commerce	
Educational Video Conferencing	EVC	Click2Learn.com	CLKS
Eloquent	ELOQ	Fatbrain	FATB
Horizon	Private	Headlight	Private
LearnLinc (formerly ILINC)	Private	Learn2.com	LTWO
Lotus Learning Space	Subsidiary	HungryMinds	Private
NetMeeting	Private	SmartPlanet	Private
PlaceWare	Private	Trainingnet	Private
Tegrity	Private	Virtual Learn	Private
WBT Systems	Private		

Source: Merrill Lynch Global Growth Group

[EWBX] MLPF&S or one of its affiliates was a manager of the most recent offering of securities of this company within the last three years.
[IZAP, POVT, SABA, SCIL] MLPF&S was a manager of the most recent public offering of securities of this company within the last three years.
[APOL, EWBX, IZAP, LTRE, NLCS, POVT, SABA, SCIL, SLVN, SMTF, TMPW] The securities of the company are not listed but trade over-the-counter in the United States. In the US, retail sales and/or distribution of this report may be made only in states where these securities are exempt from registration or have been qualified for sale. MLPF&S or its affiliates usually make a market in the securities of this company.
Opinion Key [X-a-b-c]: Investment Risk Rating(X): A - Low, B - Average, C - Above Average, D - High. Appreciation Potential Rating (a: Int. Term - 0-12 mo.; b: Long Term - >1 yr.): 1 - Buy, 2 - Accumulate, 3 - Neutral, 4 - Reduce, 5 - Sell, 6 - No Rating. Income Rating(c): 7 - Same/Higher, 8 - Same/Lower, 9 - No Cash Dividend.
Copyright 2000 Merrill Lynch, Pierce, Fenner & Smith Incorporated (MLPF&S). All rights reserved. Any unauthorized use or disclosure is prohibited. This report has been prepared and issued by MLPF&S and/or one of its affiliates and has been approved for publication in the United Kingdom by Merrill Lynch, Pierce, Fenner & Smith Limited, which is regulated by SFA; has been considered and distributed in Australia by Merrill Lynch Equities (Australia) Limited (ACN 006 276 795), a licensed securities dealer under the Australian Corporations Law; is distributed in Hong Kong by Merrill Lynch (Asia Pacific) Ltd, which is regulated by the Hong Kong SFC; and is distributed in Singapore by Merrill Lynch International Bank Ltd (Merchant Bank) and Merrill Lynch (Singapore) Pte Ltd, which are regulated by the Monetary Authority of Singapore. The information herein was obtained from various sources; we do not guarantee its accuracy or completeness. Additional information available.
Neither the information nor any opinion expressed constitutes an offer, or an invitation to make an offer, to buy or sell any securities or any options, futures or other derivatives related to such securities ("related investments"). MLPF&S and its affiliates may trade for their own accounts as odd-lot dealer, market maker, block positioner, specialist and/or arbitrageur in any securities of this issuer(s) or in related investments, and may be on the opposite side of public orders. MLPF&S, its affiliates, directors, officers, employees and employee benefit programs may have a long or short position in any securities of this issuer(s) or in related investments. MLPF&S or its affiliates may from time to time perform investment banking or other services for, or solicit investment banking or other business from, any entity mentioned in this report.
This research report is prepared for general circulation and is circulated for general information only. It does not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. Investors should seek financial advice regarding the appropriateness of investing in any securities or investment strategies discussed or recommended in this report and should understand that statements regarding future prospects may not be realized. Investors should note that income from such securities, if any, may fluctuate and that each security's price or value may rise or fall. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily a guide to future performance.
Foreign currency rates of exchange may adversely affect the value, price or income of any security or related investment mentioned in this report. In addition, investors in securities such as ADRs, whose values are influenced by the currency of the underlying security, effectively assume currency risk.