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# RIDING THE BIG WAVES

A White Paper on the
B2B e*Learning Industry

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**B2B e*Learning**

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> **"The next big killer application for the Internet is going to be education.  Education over the Internet is going to be so big it is going to make e-mail look like a rounding error."**
>
> **John Chambers**
> **CEO, Cisco Systems**

# B2B e*Learning White Paper

## Executive Summary

- **Today, corporate learning and the corporate learning organization have ascended to a position of strategic prominence in the context of managing and growing the extended enterprise.**  Bearing this out, the number of corporate universities in the U.S. has grown four-fold to 1,600 in the last ten years.  Even more telling is corporate learning's move to the executive suite.

- The result—an emerging $11.4 billion opportunity for companies providing B2B e*Learning solutions.  Just as investors have been richly rewarded for their investments in B2B solutions providers Ariba[1] (ARBA: Buy $173-3/8), Commerce One[1] (CMRC: Buy $166), E*piphany (EPNY: not rated $144-15/16) and Vitria (VITR: not rated $129-3/4), we believe we are at the beginning of an enormous implementation of B2B e*Learning content, infrastructure and services that has big potential for investors.
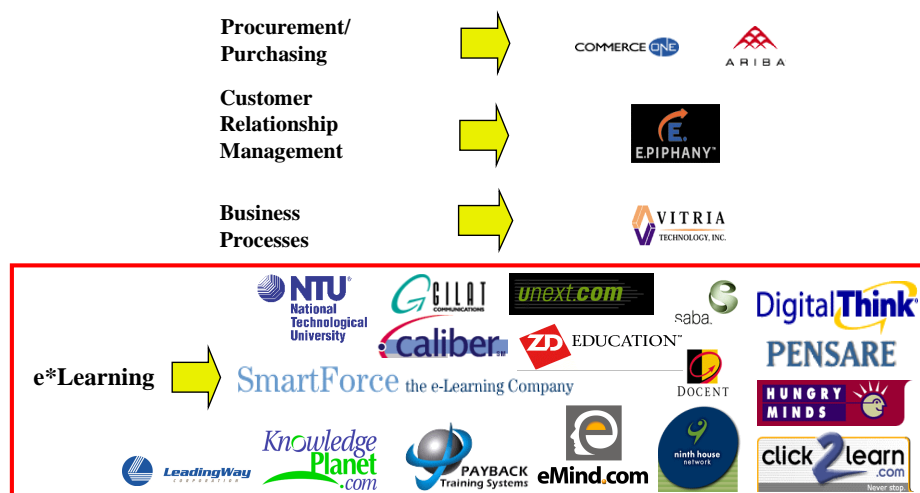


Source: Company documents and Thomas Weisel Partners

- What is driving this shift?  Several factors, including the shift of the U.S. economy from the industrial age to the knowledge age, an increasingly competitive global business environment, rapid technological change and ever shortening product development cycles, as well as the hangover effects of the corporate downsizing binge that occurred in the middle of the last decade.

- In addition, now that the Y2K monster has been slain, the dawn has broken on pent up demand for B2B e*Learning – both in terms of dollars and management's ability to focus on this hot topic.

(SkillSoft Corporation is in registration.)

> **"e\*Learning solutions provide the missing link that allows organizations to effectively measure ROI and tie learning to business results."**
>
> **Dave Ellett**
> **CEO, Docent, Inc.**

- As we enter the 21ˢᵗ century, we believe the enterprises that will flourish will be those that can obtain, manage, distribute and uptake knowledge the fastest and cheapest. This mandate has put corporate America on notice: learn or perish. Discrete training events held off-site in a hotel room that fulfills the "20 hours per year, check the box" regimen will not suffice.

- **Management's mission is to combine a series of discrete, unlinked and unmeasured training activities into an enterprise-wide process of continuous and globally distributed learning that directly links business goals and individual learning outcomes. We believe the Internet and its distributive architecture will, for the first time, give winning corporations the power to reach this goal.**

## CATCH THE WAVE; PICKING THE WINNERS

The goal of this report is to develop a thesis for investing in the B2B e*Learning space. Once investors understand the dynamics that support this rapidly growing market, it will then be time to pick individual companies. Below, we have put forth what we believe are the key characteristics that will differentiate the winners in the industry. Since this market is so young, we believe there is a critical first mover advantage in building mind and market share. Thus we have segmented our list into a near-term and long-term list of key success factors.

### Characteristics of Near-Term Winners

**"Today's business operates in a real-time world where innovation rules, competitors appear from all corners, knowledge provides more leverage than capital, and the old rules no longer apply."**

**Greg Priest**
**President and CEO, SmartForce, The e*Learning Company**

- **Complete Solutions.** Over the past 18 months corporations have begun to understand the multiple benefits of web-enabled learning. In order to reap this harvest, many companies have adopted a "two-minute offense" mentality and are scrambling to get solutions up and running as quickly as possible. As a result, these early adopters want "turnkey" solutions that combine a) best of breed course content in multiple subject areas, b) competency management and assessment tools, c) management platforms that are highly scalable and offer multiple features such as scheduling and reporting, as well as interfaces with existing ERP systems, d) learning features such as online mentoring, threaded discussions and mass personalization features, and e) a fully hosted ASP-type solution. Given these parameters, we believe the most compelling near-term investment opportunity in the public market is SmartForce (SMTF: Buy $34-1/4), a leading provider of fully integrated e*Learning solutions.

- **Positive Return on Investment.** As with any new industry, particularly those with new enabling technologies, there is often a brief honeymoon period and initial burst of interest and trial usage. If however, the product or service fails to deliver quantifiable and meaningful results, trials will not materialize into long-term contracts. Thus, it is critical that vendors provide a combination of high-quality content that delivers concrete positive returns on investment, and tracking and reporting systems that allow managers the ability to draw direct links between learning investments and improved business results.

### Characteristics of Long-Term Winners

Once the first implementation wave comes ashore and corporate customers paddle back out for the next ride, we expect that the market for e*Learning solutions will diverge down two distinct paths. We believe that those customers who enjoy the benefits of the fully outsourced, ASP-type solution will continue along this course. At the same time, many corporate learning managers will have developed a comfort level with the technology and demand choice in developing an enterprise-wide learning solution that best suits their particular needs. We believe this will force a return back towards more formalized divisions such as content providers, course management platforms, custom development services and systems integration services.

- **"Content is King."** This is the razor blade (or surfboard wax) model at the corporate e*Learning beach. Once corporations understand first hand the revenue generating and cost saving potential of distributed learning, the most direct beneficiary of this new swell will be the content providers. Companies will purchase new titles and seat licenses in ever increasing numbers, snapping up new titles on a per user license basis. In a recent report from IDC, analyst Ellen Julian predicts that by 2002, for every dollar spent on e*Learning technology, five dollars will be spent on e*Learning content. Below are the key success factors for content providers.

  ❑ **Large Off-the-Shelf Content Libraries.** Vendors with large, high quality, off-the-shelf libraries will be best positioned for success, in our view. Their non-company specific content offers them the broadest potential market and thus the highest revenue potential. In addition, since development costs can be spread across much larger sales volumes compared to customized content, the margin potential is significantly higher.

  ❑ **Large, Dedicated Sales Organization.** e*Learning is a mission critical sale that is occurring at ever higher levels of the organization. The winners in the space will be able to leverage their powerful solutions and content with large corporate sales teams capable of closing numerous high level sales every quarter.

  ❑ **Branded Content.** Even today in the early stages of the e*Learning revolution, content vendors are propagating so rapidly it's impossible to count all of the offerings. With so many providers and titles available, the ability to differentiate products will be a critical success factor. **We believe that in an effort to fight for market share, smart vendors will partner with thought leaders, industry pioneers and leading academic organizations to produce top notch content with recognizable brand names.** Nirvana occurs when branded content can be easily customized. For example, we believe Pensare's ability to deliver Fuqua's (Duke University) entire MBA curriculum online to corporate universities has boundless potential.

  ❑ **Web Optimized Content.** We believe the availability of content that has been optimized for web delivery will also be a key differentiator. Repurposed text and classroom content "shoveled" onto the web will lack a sound pedagogical foundation compared to web optimized content. As a result, we believe content that leverages the interactivity and personalization of the web will hold a significant advantage in learning outcomes and overall market acceptance.

- **"Distribution is the Driver":  e\*Learning Infrastructure.**  These are the underlying software applications that author, deliver and support e\*Learning content. We believe the most significant opportunity in this space is reserved for vendors providing enterprise-wide Course Management Systems, or CMS.  In the infrastructure space, we believe CMS vendors will capture the largest potential market since their solutions interact with every user across the extended enterprise.  We believe the power of these platforms will allow vendors to command significant one-time implementation fees as well as ongoing maintenance fees.  Platform providers are typically realizing six- to seven-figure first-year contracts followed by recurring 15% maintenance and service fees.  The real winners also get recurring revenue streams by selling compelling proprietary or partner content.  We believe vendors will also be able to generate revenues re-selling their content partners' course titles, as well as through e\*commerce activity.  In the CMS space, we believe the key attributes are:

  ❑ **Scalability:**  The leaders' systems must be able to deliver identical results to five users or 5 million users.

  ❑ **Ease of Implementation:** Market leaders must be able to implement their systems rapidly and do so without disrupting existing enterprise applications.

  ❑ **Robust Functionality:**  The well-positioned vendors will 1) support and deliver web course content from multiple sources, 2) provide registration, enrollment and scheduling for all learning activities, 3) host chatrooms, offer mentoring and threaded discussion capabilities, 4) provide a user friendly front end, 5) provide user histories and reports, and 6) allow for reporting and interface between the course management system and existing ERP platforms.

## THE INTERNET CHANGES EVERYTHING

The Internet has emerged as an increasingly powerful medium for communication, information and commerce. IDC estimates that there were 67 million business web devices worldwide at the end of 1998 and that this figure will grow to 346 million by the end of 2003. Factors driving this growth include:

- A large and growing installed base of computers in the home and in the workplace;

- Advances in the speed of personal computer and modem performance;

- Improvements in network security, infrastructure and bandwidth;

- Easier and cheaper access to the Internet;

- Rapidly expanding availability and quality of online B2B infrastructure solutions; and

- A GLOBAL OPPORTUNITY.

**World Wide Web Devices are Taking Over the Business World**
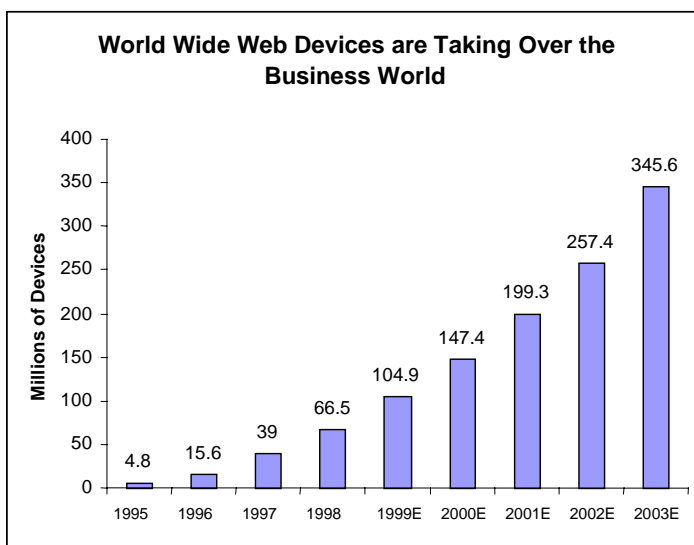


Source: International Data Corp.

- The tremendous growth in Internet usage has already created a global commerce opportunity. Yet, the use of the Internet within the context of corporate learning is still in its infancy. We believe the Internet will become corporations' main point of access for educational content and services as connectivity and bandwidth rapidly increase.

### THE CORPORATE LEARNING INDUSTRY

- **The Market** – Nationally, the overall market for education is enormous. At over $625 billion, it accounts for approximately 7% of our total gross domestic product. Only health care, at $1.2 trillion, makes up a larger part of our economy. More impor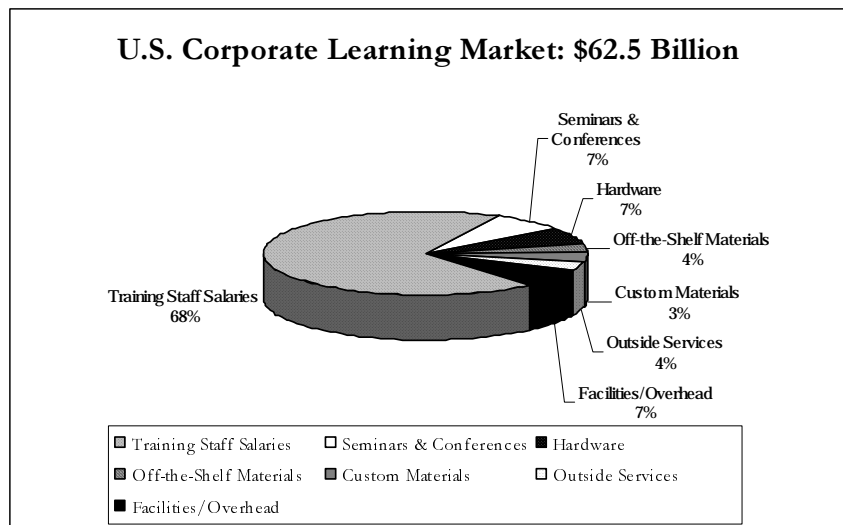tantly, nothing plays a more meaningful role in the overall quality of life than education and health. Throughout our work on K-12 and post-secondary education, we have continually stressed this point. Increasingly, poor learning outcomes at the K-12 and post-secondary levels are forcing corporations to take responsibility for educating the American workforce, as a result corporate learning plays an equally important role in our society.

- As the Internet becomes the centerpiece of corporate learning and delivers upon its early promise of improving learning outcomes, increasing productivity and reducing cost, the corporate learning market will continue to play a substantial role in American education.

- According to *Training Magazine's* most recent annual survey, the market for formalized learning within U.S. companies is $62.5 billion. Given the scalable and distributive nature of web-enabled learning, this represents a substantial opportunity for e*Learning companies and investors.



**U.S. Corporate Learning Market: $62.5 Billion**

Seminars & Conferences 7%
Hardware 7%
Off-the-Shelf Materials 4%
Custom Materials 3%
Outside Services 4%
Facilities/Overhead 7%
Training Staff Salaries 68%

☐ Training Staff Salaries   ☐ Seminars & Conferences  ■ Hardware
☐ Off-the-Shelf Materials  ☐ Custom Materials   ☐ Outside Services
■ Facilities/Overhead

Source: Training Magazine

- Supporting this investment thesis, IDC's newly revised market forecast for the corporate e*Learning market provides strong evidence that this is a market poised for substantial growth. IDC estimates that in 1998 the size of the U.S. corporate e*Learning market was $550 million. We believe an increase in available content, combined with technical innovations in delivery systems, bandwidth and software, will create a rapid uptake within corporations. **Based on these key catalysts, IDC predicts that by 2003 the corporate e*Learning market will grow to $11.4 billion, representing a five-year compound annual growth rate of 83%.**

**Historical and Projected Corporate e*Learning Market
($ in millions)**
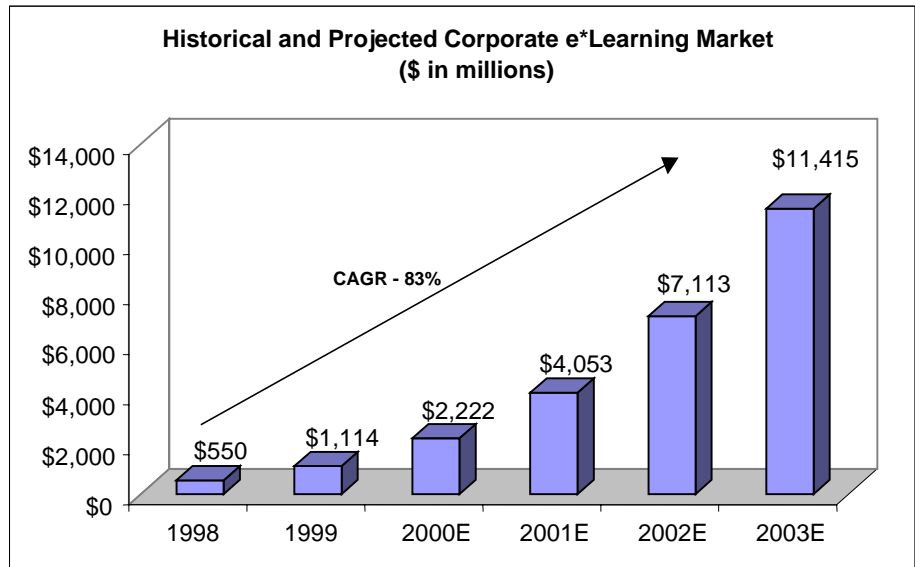


Source: International Data Corp.

- A closer look at *Training Magazine's* 1999 survey would clearly support IDC's predictions. Even today, 36% of the over 1,000 organizations surveyed are using the Internet to facilitate learning within the company. Furthermore, a full 54% are using computer-based content delivered via CD-ROM. Given the dramatic improvement in web technology and infrastructure, combined with the tremendous interactive and personalized nature of the web, we believe online courses will rapidly eclipse CD-ROM and other technology-based training mediums.

- The IT training market provides a well lit road map for the overall corporate e*Learning market. Not only does it represent a substantial sub-segment of the overall corporate learning market, but it is also a pioneering early adopter of technology-based delivery. According to *Training Magazine*, one-third of training delivered within U.S. organizations is dedicated to teaching employees how to use, maintain and implement information technology systems. Since IT training is so technology focused, it is not surprising that its practitioners were early adopters of desktop delivery. As the following chart illustrates, Internet delivered IT training is expected to overtake all other forms of technology-based delivery mediums this year.

**The "X" Factor: The Internet Will Dominate Technology-Based Training**
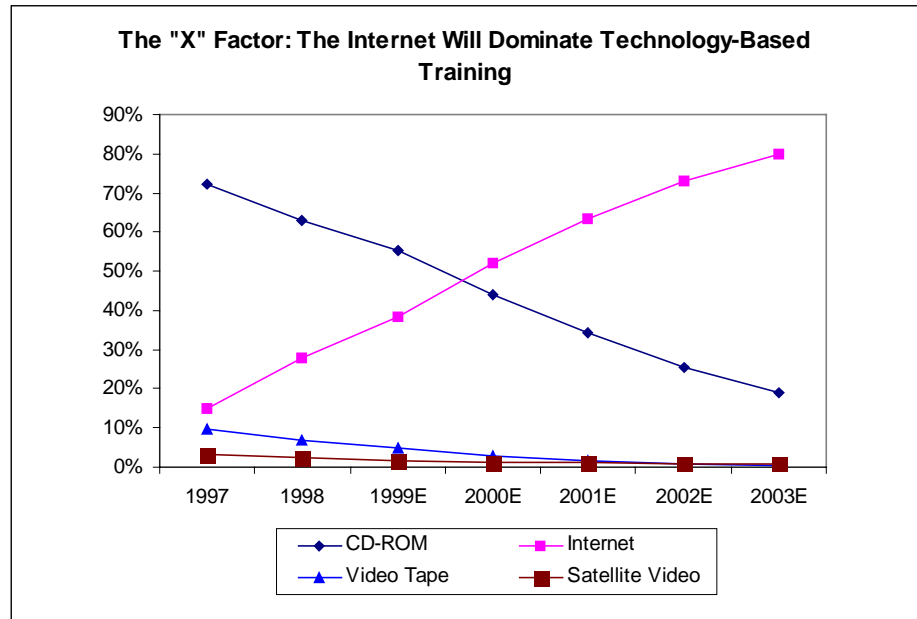


Source: International Data Corp.

## THE RISE OF THE CORPORATE UNIVERSITY

- The opening of Hamburger U within the McDonald's organization some forty years ago gave birth to the enlightened, yet quaint, notion of a "college" within a company. **Today, the preponderance of corporate universities and learning organizations across corporate America illustrates the fundamental change in the boardroom that knowledge is a company's most valuable asset. According to learning advocacy group, Corporate University Xchange, there are over 1,600 corporate universities in the U.S., up from 400 just 10 years ago.**

- In addition to the rapid evolution of the corporate university, the creation of a new job title, the Chief Learning Officer "CLO" or Chief Knowledge Officer "CKO," illustrates that today's corporate leaders want the managers of their learning organizations to participate when the executive team plans strategy. Just as the importance of computing and communications fundamentally reshaped organizations in the 1980s and gave birth to the term "CIO," we are now seeing a similar revolution for the e*Learning function.

- Before the birth of the PC and client-server technology, using computers was a discrete, irregular event in a windowless basement room run by the pocket protector set. Now computers are the single biggest productivity tool in corporate America. As learning and knowledge managers ascend up the corporate ladder, we believe responsibility for purchasing e*Learning content and services will shift from the human resources department and training groups to the executive suite, in line with its strategic importance. Vendors must be cognizant of this new dynamic and develop sales forces capable of making CEO and CLO level sales.

> **"Of all the initiatives we've undertaken at Chevron during the 1990s, few have been more important or as rewarding as our efforts to build a learning organization by sharing and managing knowledge throughout our company. In fact, I believe this priority was one of the keys to reducing our operating costs by more than $2 billion per year, from about $9.4 billion to $7.4 billion, over the last seven years."**
>
> **Kenneth T. Derr,**
> **Former Chairman and CEO**
> **Chevron Corp.**

- Until recently, corporate learning, like early corporate computing, was viewed by most as discrete training events held off-site in hotel conference rooms that were part of a mandated "20 hours per year, check the box" regimen. However, CEOs are tired of putting people on airplanes so they can go have a good time. Within today's new corporate environments, learning is a continuous, everyday event that manifests itself regardless of responsibility, location or job description.

- So what is driving this shift? We believe the primary catalyst is the shift from an industrial to a knowledge-based economy. Prior to the 1980s and the proliferation of the PC, plentiful high paying, low skill, industrial jobs created a buoyant middle class in this country. The discovery of low-wage offshore labor and advent of the microprocessor, however, effectively closed this chapter of American history. **Today, the organizations that succeed are those that obtain, manage, distribute and uptake knowledge the fastest and the cheapest.**

- In addition to this fundamental transition to a knowledge-based economy, several other key factors have played a role in elevating the importance of learning organizations within corporations. These include:

  ❑ Increasingly competitive global business environment;

  ❑ Rapid technological change;

  ❑ The hangover effects of corporate downsizing;

  ❑ Migration towards value chain integration and the extended enterprise;

  ❑ Enterprise resource planning implementations;

  ❑ Cost containment;

  ❑ A robust economy;

  ❑ A commitment to safety;

  ❑ Lack of skilled personnel;

  ❑ Diminishing product development cycle times; and

  ❑ Rapid increase in information technology vendor certification programs.

> **"The future lies in being more than just an ISP or ASP, successful companies are positioning themselves as a 'BSP,' a Business Service Provider. This means the company offers a complete solution to the business client."**
>
> **Howard Marks**
> **CEO, eMind.com**

## TRENDS AT TODAY'S LEADING CORPORATE LEARNING ORGANIZATIONS

In order to better understand the enormous market potential for corporate e*Learning applications, we think it is imperative to spend time with the individuals who manage and lead America's top corporate learning organizations. Over the past three months, we visited with the management teams of:

**Chevron University**          **PeopleSoft University**          **Fairlane Training Center**

**SunU**          **First University**

Source: Thomas Weisel Partners and company websites

Below, we have synthesized several themes that emerged during our meetings. Each one highlights the rapid change in the corporate learning market and challenges that face the individuals who manage these organizations. **In aggregate, they point to the need for a paradigm shift in the fundamental deployment, delivery and management of corporate learning and a big investment opportunity.**

- **Managing Organizational Competency.** With the transition from an industrial economy to our knowledge-based economy, companies now compete to control intellectual assets, not physical assets. Today, managers competing in this new economy must command a top-down, enterprise-wide understanding of the intellect within the organization so they can best deploy these assets. In addition to measurement, managers want systems to develop and improve competencies on a personalized yet enterprise-wide basis. Thus, we look for vendors who offer solutions that, at their core, demonstrably increase organizational and individual competency. This is particularly relevant in a robust economy where finding and hiring talented employees is time consuming and expensive, if not impossible.

- **Providing Employees with Competency Roadmaps.** Measuring and improving competencies, however, is not a one-way street. Employees today are demanding that organizations make a continuous investment in their professional development.

  - ❑ The first step in the "roadmapping" process is outlining for employees the key skills and competencies they need in order to advance along a given career path. Given our red-hot economy, this is particularly important. **For the past two years we have been reading research and hearing anecdotally that the**

**number one reason employees leave existing positions for new jobs is not pay but that their employer was not investing in their development.** We are now in a "free agent" labor economy, and the free agents are going to companies willing to invest in their personal human capital.

❑ Sun Microsystems, for instance, has institutionalized a compact that highlights the company's commitment to its employees' development. Instead of offering lifetime employment, Sun offers opportunities to employees whose competencies and skills match the current needs of the company while simultaneously providing employees with the learning resources needed to make them valuable assets to the company. The onus, however, rests on the employees to pursue and engage themselves in the learning process.

- **Distributing Latent Knowledge within the Organization.** In the knowledge economy, employee value is not simply measured by the ability to execute strategy and manage teams, but also their residual pool of on-the-job knowledge they have amassed during their tenure. Until recently, corporate managers failed to recognize this value and did little to harness it. At each of the organizations we visited, managers now understand the value of this tacit learning and are eager to capture it, format it into explicit learning material and distribute it across the enterprise.

- **Aligning Business Objectives and Learning Outcomes.** Today, learning organizations are under increasing scrutiny to demonstrate direct contributions to the bottom line. As a result, managers are focusing their efforts on learning initiatives with financially quantifiable outcomes. At the same time, the restructuring and downsizing binge in the middle of the last decade, combined with increasingly short product life cycles, has created the need for large scale, strategically oriented learning initiatives. In both cases, learning is becoming more closely aligned with business objectives, and managers are being asked to provide measurable and direct links between their learning initiatives and increased business opportunities.

- **Extending Learning to Value Chain Partners.** Corporations understand that their business successes are directly linked to performance of their business partners including customers, suppliers and unions. This expanded focus upon the value chain means that members of the extended enterprise need to be involved in the learning process. This practice not only cements relationships but also creates high switching costs. During our visits, we witnessed this commitment first hand. For example, at PeopleSoft and Sun Microsystems, the organizations that provide learning services to channel partners and customers are substantially larger than the organizations' internal universities. At Intel, we saw this practice in action from the opposite perspective. At the company's chip fabrication facilities, Intel relies upon equipment vendors such as Applied Materials to provide training to its manufacturing personnel. And at Ford Motor Company, hourly employees receive training via a partnership that combines the input of Ford and the United Auto Workers.

> **"This is why, for example, we'll see continued emphasis on sharing best practices and using the best work processes. Every day a better idea goes unused is a missed opportunity. Companies that can rapidly put better formulas to use globally will have an advantage. And again, it will be up to management to sustain a culture that can seize new opportunities."**
>
> **Kenneth T. Derr**
> **Former CEO and Chairman, Chevron Corporation**

- **Reducing Delivery Costs and Increasing Organizational Efficiency.** As the reach of global corporations continues to expand, learning organizations must cope with delivering learning to employees who are scattered around the world. At Ford, for instance, 120,000 employees visited the Fairlane Training Center in Dearborn, MI during 1998. With training hours doubling every three years, Ford can no longer justify the expense of bringing people to one centralized location and keeping them from their job functions for extended periods. Instead, new solutions must be found to deliver the learning experience remotely.

- **Validating Outcomes Directly with Increased ROI.** More and more, corporate universities are no longer viewed as cost centers but instead are given profit and loss status within the company. As a result, managers need as many tools as possible to aggressively sell learning across the extended enterprise. One of the key focuses is demonstrating the direct benefits of learning implementations. University managers need measurable performance data from each engagement or investment in order to show a meaningful return on investment. Therefore, we believe the most successful e*Learning solutions will provide reports that demonstrably prove the link between learning investments and improved business outcomes. As the following case study shows, the investment of $500,000 in a web-enabled salesforce new product introduction seminar can produce a positive return of 3,000%. This large return is the result of accelerating the product launch and maximizing the total selling days available for a product with a fixed one-year product life expectancy.

## CASE STUDY

The flexibility and speed by which training can be deployed using a Web Enabled Learning System (WELS) approach is demonstrated in launching a new product. A company launches a new product and, in the process, must train its 100-person sales team in the merits and other details of the product. ETA is used to reduce the time it takes to train the sales staff. This reduced time is materially valuable and is equivalent to the value of ETA. This scenario shows the value of reducing the training time it takes to get a sales force 100% capable of selling a new product.

| | |
|---|---|
| Business Objective | Reduce product-launch training times by one-third to allow sales personnel to hit the streets sooner. |
| Performance Objectives | Number of days it takes to get 100% of sales force fully trained on new product. <br> Traditional training: 90 days <br> Enterprise Training Automation: 60 days |
| Revenue/ Profit Metrics | Number of sales personnel: 100 <br> Average sales volume per day per salesperson: $5,000 <br> Life span of new product: One year or 200 selling days |
| Value of Attaining Business Objective | Number of salesperson days saved using ETA: 100x30=3,000 <br> Multiplied by <br> Average sales volume per sales person day: $5,000 <br> Equals <br> Value of reducing product launch times by 33%- $15 million |

The product's expected life span is only one year, or the equivalent of 200 days of selling. If the sales force consists of 100 people, then there are a total of 20,000 salesperson days available during the life of the product to sell it.

Using traditional training media, 9,000 sales person days (90 days x 100 sales persons) would be devoted to training on the product, leaving only 11,000 salesperson days left in the product's life to sell the product. Using ETA, training requires only 6,000 salesperson days, leaving 14,000 salesperson days left to sell the product. **The 3,000 extra days resulting from an ETA approach potentially delivers $15 million in sales revenues = (3,000 salesperson days x $5,000 per salesperson).**

If the total investment in the sales force product launch was $500,000, then the first year's return on investment would be:

**Return on investment =**
**(Value of Realized Gain/Investment Required for Gain)**
**=($15,000,000/$500,000)**
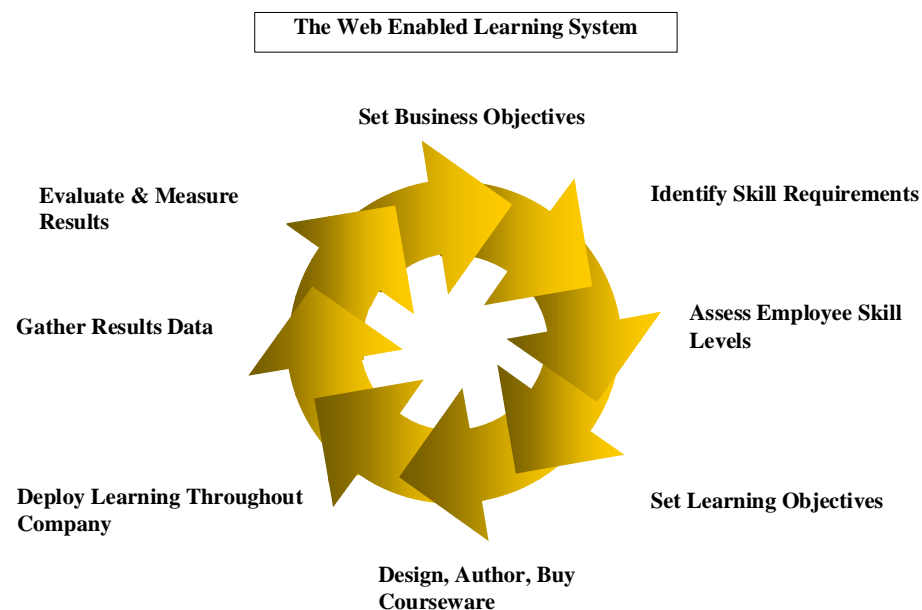**=3000%**

Source: Docent and Granada Research

- **Providing On-Demand Task Related Resources.** In addition to providing competency road maps and skill building course curriculum, university managers are also keen to deliver more tactical, task-oriented learning across the organization. Specifically, they envision providing quick, easy-to-find, on demand packets that provide tutorials on specific tasks. John Coné at Dell University recently commented, "We want to give our employees immediate, searchable access to lots of stuff."

  - ❑ At Sun, learning materials are developed as 5 to 15 minute learning objects which provide experienced employees with quick desktop reference material. Concurrently, these same materials can be combined into larger, more formalized courses for newer, less experienced employees.

- **Rationalizing Duplicative Training.** Within many corporations, particularly those with decentralized learning organizations that rely upon operating units to provide a substantial portion of the learning activities, duplicative training courses have become a major cost issue. Jon Walker, the Dow Chemical executive overseeing its e*Learning initiative, recently commented, "We used to have 16 different courses that trained the same thing whether you're in Texas or Germany. Moving to the web is allowing us to standardize our course offerings while tailoring as needed for different audiences." Walker believes the elimination of duplicative training efforts is a significant contributor to the staggering ROI the company expects to achieve from its investment in web-based learning. **From an initial investment of $1.6 million, Dow Chemical is expecting to save $4 to $5 million during its first year, $8 to $10 million in year two and $17 to $20 million in the third year of its e*Learning investment.**[a]

## THE B2B E*LEARNING ENTERPRISE

- The needs of the corporate learning community present a monumental opportunity for e*Learning vendors. **Distilling these many disparate themes into a concise finding is a challenge, but we believe the most succinct way of putting it is: management's mission is to combine a series of discrete, unlinked and unmeasured activities into an enterprise-wide process of continuous and globally distributed learning that directly links business goals and individual learning outcomes. We believe that the Internet and its distributive architecture will, for the first time, give corporations the power to reach this goal.**

> **"The continuous evolution of the learning industry is hell-bent toward an experience totally personalized to the individual learner. Today, the vertical communities accessed by an individual learner provide a comfortable environment to learn skills required in the learner's industry. Tomorrow, access will be through a corporate-sponsored community completely tailored to the individual's needs, with content delivered on demand and technology that will continually monitor the learner's abilities as the learning takes place, adjusting content and pace seamlessly. It is only this type of learning that allows content development to become a scalable business."**
>
> **Wade Baker**
> **President & CEO, Payback Training Systems**

**The Web Enabled Learning System**



Set Business Objectives

Identify Skill Requirements

Assess Employee Skill Levels

Set Learning Objectives

Design, Author, Buy Courseware

Deploy Learning Throughout Company

Gather Results Data

Evaluate & Measure Results

Source: Granada Research

- As in any nascent industry, names for large-scale solutions are as common as vendors hoping to build mind and market share. For the sake of convenience and consistency, we will introduce the term "Web Enabled Learning System" or (WELS) as a generic, non-brand or vendor-specific descriptor. We believe WELS is broadly defined as any enterprise-wide learning solution that is delivered and managed via the Internet.

- Today, corporations worldwide are implementing WELS that provide them with the power to create a continuous learning environment across the extended enterprise. Organizations are using this new delivery medium because it offers them a superior centralized learning solution, which for the first time combines:

  ❑ Content that can be remotely managed from one location and be updated continuously without any additional distribution expense;

- ❏ A learning platform that can reach anybody in the organization regardless of location;

- ❏ Tools for tracking and managing competencies on an enterprise-wide basis;

- ❏ Authoring tools for self-publication of course content;

- ❏ Peer collaboration communities and mentoring services for learners throughout the organization regardless of location or time availability; and

- ❏ Personalization of the learning experience for each individual participant.

- • The following chart illustrates the paradigm shifts in corporate learning over the past decade. At each level, WELS is playing a central role in creating a new system of continuous, on-demand, highly targeted and revenue-generating learning.

| Corporate e*Learning: The New Wave | |
|---|---|
| Old Paradigm | e*Learning |
| • Discrete activity | • Continuous - from "meta-tagged" bits to degrees online |
| • Off-site, classroom based - "just in case" learning | • Extended, global enterprise, "just-in-time" learning |
| •Cost center | • Revenue driver |
| • No alignment to business objectives or outcomes | • Aligned to business objectives and outcomes |
| •Competency gaps unknown - Minimal assessment | • Competency measurement provides ongoing assessment |
| •"One size fits all" | • Personalized, targeted learning |
| •Back office Training Department | • Rise of the Chief Learning Officer |

Source: Thomas Weisel Partners

- Perhaps the best way to convey the robust, distributive and economically compelling nature of corporate e*Learning is through example. Below we have assembled a number of specific applications where the Internet provides superior solutions and outcomes as compared to the traditional face-to-face training model.

- ❑ **Corporate Restructuring or Strategic Shift.** During times of change, such as a restructuring or a major shift in business focus, we believe it is critical that leaders deliver a concise, consistent message supporting these decisions as quickly as possible. Internet-based learning systems take advantage of the web's distributive power to deliver these mission critical learning messages. In geographically dispersed organizations, this is almost impossible to achieve in person.

  For instance, KPMG Peat Marwick, with offices worldwide, recently implemented an enterprise-wide e*Learning solution from DigitalThink. Phase One of the contract included the development of an e*Learning tool aimed at building the overall competency level of KPMG's consultants in the fields of e*Business and e*Commerce. This engagement was the direct result of KPMG's overall strategic shift from IT and ERP implementations to providing change management consulting services for bricks and mortar businesses that are webifying their business strategies.

**DigitalThink**

DigitalThink, located in the heart of San Francisco's new media gulch, is a leader in corporate e*Learning solutions providing both custom and off-the-shelf content combined with a complete management system, tutoring, chat and threaded discussion capability for learners, instructors and mentors. As a born-on-the-web company, DigitalThink's solutions are fully web-enabled and can be deployed internally via the client's Intranet or hosted externally and accessed directly via the web.

Today, DigitalThink boasts over 160 catalog courses (adding 10 new titles per month) covering horizontals including IT, sales, ERP implementations, accounting and human resources. The company is targeting selected vertical markets including financial services and technology. DigitalThink courses benefit from a born-on-the-web development process that is supported by over 60 instructional designers.

In addition to historical clients Adobe, Intel, and Sun Microsystems, DigitalThink has recently added KPMG Peat Marwick and Charles Schwab, signing major contracts for both internal and customer learning.

❑ **Enterprise Resource Planning (ERP) Implementations.** ERP implementations can radically alter the job functions of thousands of employees within an organization. What's more, the capital outlays for such implementations can be enormous. Unfortunately, in many cases ERP systems fail to deliver upon promises of increased productivity because employees do not receive proper training to effectively harness the power of these systems. Internet-based learning systems provide a cost-effective means of rapidly delivering ERP training simultaneously across organizations with great success.

  ❑ At Corning Inc., management is using Internet-based learning to train 70,000 employees in 70 countries as it implements a new PeopleSoft ERP system. **Steve Cooper, Corning's director of information technology, estimates that the company will save between $2 million and $3 million using online learning during the implementation.**[b]

  ❑ Practicing what he preaches, Sun Microsystems' education manager John Ryan recently was able to meet a seemingly impossible two week deadline to train employees across the company on a new Oracle application. Even with a significant change to the underlying Oracle application one week into his learning regime, the company's "SunPeak" web-based learning network was able to fully train 7,500 employees on the application and meet this excruciatingly short time line.

❑ **IT Certification.** According to *Training Magazine*, IT training accounts for roughly one-third of all corporate learning. A major contributing factor to this statistic is the rapid increase in software vendor certification programs. For example, over 600,000 individuals have completed the Microsoft Certified

Professional program. With the tremendous dearth of IT professionals in the U.S. (Gartner Group estimates that by 2003, 20% of IT positions in the U.S. will be unfilled), employers need to build and retain skilled employees within the organization. At the same time, employees covet vendor certifications largely because they provide a highly recognizable symbol of accomplishment and better leverage in negotiating salaries. Today, a substantial percentage of software vendor certification training is delivered online by vendors such as SmartForce and NETg.

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**SmartForce - The e\*Learning Company**

Always one step ahead, SmartForce (formerly CBT Systems), the pioneer in technology-based training, continues to retain its dominance in the e\*Learning space. Already the leader in web-enabled learning, this past fall, the company announced its transformation to an e\*Learning solutions provider. As part of its new strategy, the company adopted its new name, SmartForce, to reflect its expanding role within its client organizations toward providing a complete, outsourced solution for IT and performance improvement training. Instead of selling course titles, the company now provides an integrated, dynamic, web-based leaning environment that includes over 1,100 SmartCourses, SmartMentoring, online seminars and other expert-led events, threaded discussions, white papers, peer-to-peer collaboration and access to instructor led training, as well as a complete management system. Using mass customization technology, the learning environment can be customized for each organization and personalized for each learner based on the learner's job description, area of interest or certification requirement.

In addition to its core B2B business, SmartForce is also pursuing a B2C strategy through which it plans leverage its corporate customer base to build a major subscriber base of individual learners. SmartForce has recently signed major B2C deals with Microsoft and Dell.

Long the leader in the technology-based training industry, SmartForce has over 2,000 major corporate customers worldwide, as well as the largest direct sales force in the industry. The company also has content partnerships with leading software vendors, including Microsoft, Oracle, Cisco, Lotus, Novell, Intel, SAP and Netscape.

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❑ **New Product Introductions.** Internet-based learning systems can have a substantial impact upon productivity and revenues in more tactical settings. For instance, if a company introduces a new product or opts to open a new distribution channel, management can quickly and effectively disseminate the appropriate learning materials to thousands of employees. This is extremely important as new product introductions continue to accelerate as product life cycles degrade ever more rapidly.

❑ **Monitoring Regulatory Compliance.** In regulated industries, such as accounting, securities, healthcare, real estate and the law, managers must continuously and vigorously track the certifications of their employees. In addition, they need systems that deliver the appropriate learning content and

assessment testing. Using WELS, companies now have an integrated solution that provides management, tracking, assessment and content delivery on the desktop. Internet-based learning leaders exploiting this market include eMind.com and Taecan.

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### eMind.com

Based in Los Angeles, eMind.com (formerly Yipinet) is a leading, B2B business service provider (BSP) of complete e*learning solutions for vertical markets including accounting, insurance, securities, banking, IT, professional development and healthcare. eMind.com provides clients solutions that include hosting, vertical specific and horizontal course content (over 1,000 titles), consulting, custom course development and an industry specific learning platform. The vertical focus and expertise allows eMind.com to satisfy the mandatory educational needs within each vertical. eMind.com has developed a long list of blue chip corporate clients, such as Arthur Andersen, as well as established exclusive online partnerships with leading professional associations, such as the California and New York state CPA societies whereby society members have access to eMind.com's significant content library.

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❑ **Degree Granting Programs**: At corporations around the world, employees seek advanced degrees in fields such as engineering and business while working full time. Historically, this meant attending courses on-campus at prescribed times. In many instances, however, employees did not work or live close enough to a campus with the appropriate program or could not attend consistently due to travel and schedule conflicts. This meant either not pursuing the degree or taking an extended leave of absence, both detriments to the organization and the individual. The advent of the Internet has made it possible for these individuals to participate in career enhancing, degree-granting programs regardless of schedule or location.

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### UNext

As the web continues to climb up the ivy covered walls of the world's premiere academic institutions, UNext is giving corporate learners the ability to take top notch business courses from its academic partners the University of Chicago, Stanford, Columbia and the London School of Economics. The courses will be co-developed by UNext and the individual partner school and will then be offered and managed by UNext's Cardean University. Cardean will initially offer individual courses and certificate programs to executives and eventually hopes to offer complete MBA degrees once it receives accreditation.

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**PENSARE**

> **Pensare**
>
> Pensare is a leading provider of the content, platform and tools necessary for creating collaborative, value-added corporate learning communities. This unique approach to knowledge management combines world-class business content, instruction techniques and human interaction to produce a powerful, company-specific learning resource. Pensare's solution employs a two-tiered learning structure. The first level provides top of the line content from the thought leaders of business, including high profile institutions such as Harvard, Wharton and Duke. Leveraging off this foundation of content, Pensare's innovative tool set allows corporations to design, produce and continually update a customized curriculum that has direct relevance to everyday business operations – we call it "applied business school." The true value of a learning community lies in its ability to make skill and performance enhancement an ongoing activity within a corporation.

❑ **On-Demand Task Oriented Reference.** In addition to multi-hour course content, corporations need to provide their employees with performance enhancing, task oriented, on-demand, rapidly accessible reference content. The key here is to provide a wealth of highly targeted content in one centralized location that is immediately accessible. Today, many organizations are providing such a solution via their WELS through the use of relational databases. **The content stored in the database can come from any number of sources. However, the real power comes from its ability to serve as the medium for conveying the individual pieces of tacit learning developed within the corporation and delivering them as explicit learning materials.**

Content can come in any number of formats, internal memos, best practices directives, sales presentations, et cetera. Whatever the source, the content is chunked into individual learning objects that are then meta-tagged by subject matter, task, operating division, technology, or job description. Employees searching for specific information can then quickly retrieve targeted reference information. What's more, the database technology can also assemble the objects into more formalized learning course material.

## LeadingWay

One of the most exciting aspects of the emerging e*Learning space is the convergence of learning management and knowledge management.  Irvine, California based LeadingWay provides complete e*learning solutions using a relational database architecture that relies upon knowledge and learning objects which are assembled to not only produce training course content but also technical references or sales presentations.  By meta-tagging each object, managers can specify exactly which content is appropriate for a given audience depending upon their job description.  Knowledge objects can include off the shelf training content, audio or video presentations, even internal memos.  Current clients include Caterpillar, AirTouch, ADP, American Honda Motor, Mortgage.com, Sun Microsystems, Toyota and the U.S. Navy.

❑ **Simulations.**  Replicating real life experiences have long been considered one of the best ways to develop and reinforce knowledge transfer.  At the corporate level, they long have been used as learning tools.  Unfortunately, live face-to-face simulations have many drawbacks.  In addition to the very high cost, classroom simulations are one-time events that once completed, are incapable of offering any lesson reinforcement or support.  As a result, computer-based Internet delivered simulations have become increasingly popular with applications ranging from war games simulations for the military to situational leadership scenarios for corporate managers.

## Ninth House Network

Ninth House Network, the only broadband media network for learning, offers employees a personalized, interactive and cinematic learning experience.  Delivering multiple channels of interactive programming right to the user's desktop, Ninth House Network provides a safe environment for employees to practice real life business situations while allowing them to make decisions and track their impact through sophisticated interactive role playing simulations.  Ninth House Network is bridging the corporate skills gap, enabling employees to build crucial business and communication skills, and helping organizations to create a highly effective workforce.  Ninth House Network is helping organizations such as Hewlett-Packard, Intel, First Union Bank, Con Edison and Bass Hotels leverage individual knowledge into a sustainable competitive advantage through the creation of a highly effective and competitive workforce.
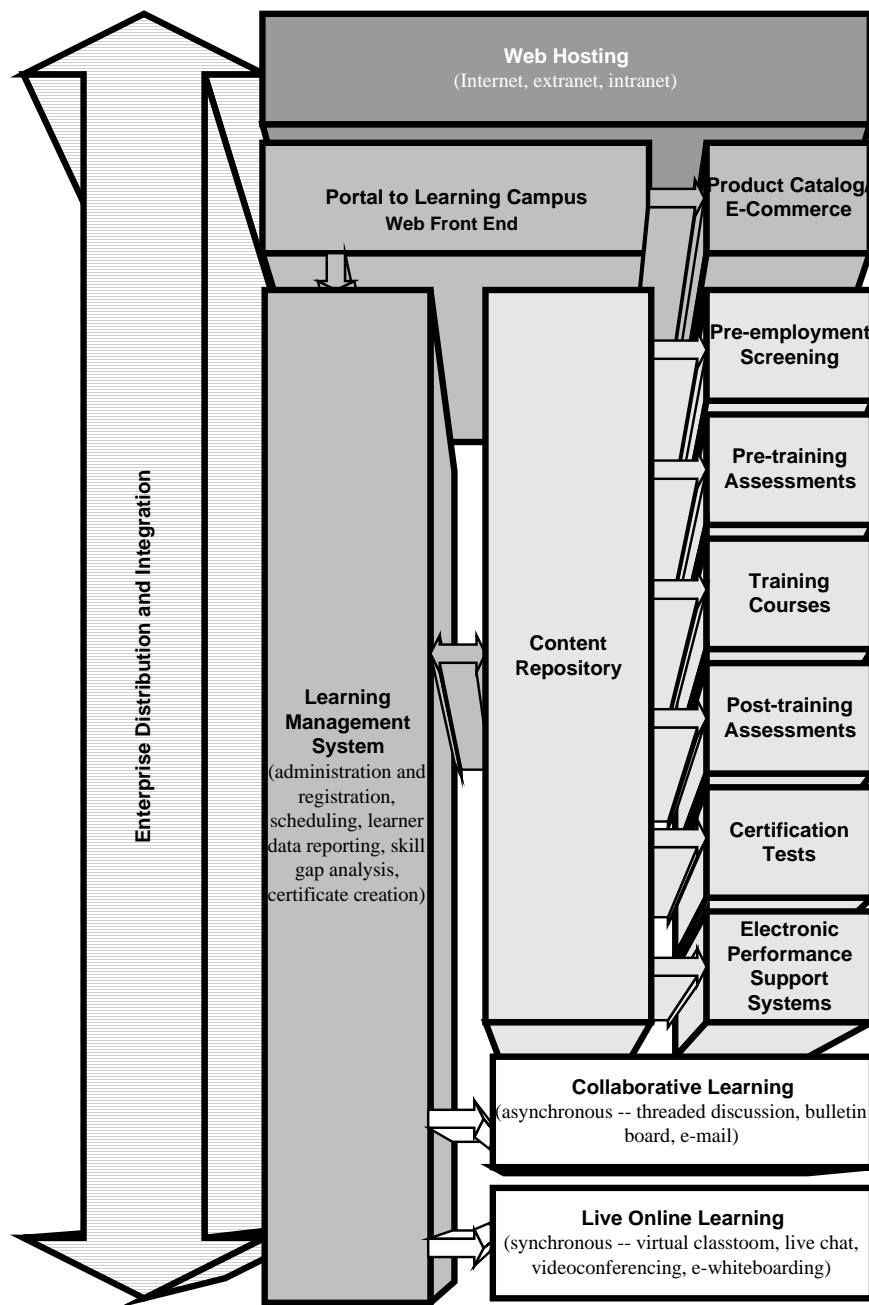
## THE PHYSICAL MODEL

Now that we have made a compelling argument for corporate e*Learning and the unrivalled opportunities it provides organizations, it is important to look at the basic framework of WELS. By looking at its components, investors will be able to more clearly grasp the investment opportunities that exist in this rapidly growing space.

Since each WELS implementation will vary from business to business, the easiest way to understand the system is to break it down into its most elemental structure. What's more, since the WELS model is still in such a nascent state, few standards or recognized anatomical delineations exist. Contributing to the lack of defined models is corporate America's rapid interest and uptake of corporate learning. Because web-enabled learning is so new, many companies are looking to vendors who can rapidly implement complete e*Learning solutions. This in turn has created a convergence with vendors scrambling to position themselves as complete solutions providers as opposed to simply being recognized as content vendors, tools providers or systems integrators.

As a result of this evolving landscape, we think it important to follow a model that disaggregates the market but provides a context for understanding how a solution works in practice. IDC's report entitled "The Anatomy of an Internet-Based Learning System" provides such a view and is a useful tool for understanding the tremendous opportunity that the corporate e*Learning space holds.

The following model illustrates each of the three main pieces of the Internet based learning model. This group includes:

- **Web Front End – Learning Portal.** This is the browser based user interface that provides the entry path into WELS.

- **Course Management System.** The CMS is the platform that deploys and manages learning content, schedules courses, tracks user outcomes and interfaces with existing enterprise resource planning software applications.

- **Content.** Content includes web-hosted and delivered courses, pre- and post-course assessment tests, competency road maps, simulations and seminars.

Web Hosting
(Internet, extranet, intranet)

Portal to Learning Campus
Web Front End

Product Catalog,
E-Commerce

Pre-employment
Screening

Pre-training
Assessments

Training
Courses

Post-training
Assessments

Certification
Tests

Electronic
Performance
Support
Systems

Enterprise Distribution and Integration

Content
Repository

Learning
Management
System
(administration and
registration,
scheduling, learner
data reporting, skill
gap analysis,
certificate creation)

Collaborative Learning
(asynchronous -- threaded discussion, bulletin
board, e-mail)

Live Online Learning
(synchronous -- virtual classtoom, live chat,
videoconferencing, e-whiteboarding)

Source: Payback Training Systems

## Web Front End - Learning Portal

Most learning management systems utilize a web-based front end that serves as the learners' entry point into the entire WELS. Its most important function is providing a launch site or entry platform to both the course management system and the course content itself.

From the employees' point of view, the interface has the look and feel of a portal. In addition to its two primary functions, the front end provides a number of features including course catalogs, links to outside learning resources, databases and research material, access to registration and application functions, search functions for content both inside and outside the organization, event calendars, access to e*commerce activities, and competency roadmaps and assessment tools.

At Sun Microsystems, the managers at Sun University are currently building an innovative and ambitious "Education and Development" portal that is broken into three distinct areas that comprise their WELS – "My Library," "My Training," and "My Job." This portal, which is still in development, provides access to every learning opportunity available at Sun Microsystems.

- "My Library" is a resource portal that links learners to news articles, research databases, market research, technical and engineering information and product information, as well as providing real time news alerts and access to purchasing books and other learning material through outside vendors.

- While "My Library" offers tacit knowledge and information, "My Training" is the link to explicit learning opportunities and continuous professional development. Within this page learners can access a broad array of Internet-based courses, review a complete catalog of classroom-based courses, competency roadmaps, development plans, learning paths, schedules and interactive learning communities.

- "My Job" provides learners with tactical, performance supporting job aids on a case-by-case basis. For instance, if someone on the finance staff is asked to determine the corporation's weighted average cost of capital they could use "My Job" to quarry for a brief web-based refresher on the subject.

Clearly, the Sun Microsystems Education and Development portal epitomizes a robust and ambitious front- end with an impressive array of features. On top of this abundance of learning resources, the instructional designers and developers at Sun have invested substantial time and energy creating a well organized, easy to navigate and personalized learning environment. Personalization is an essential element in ensuring employees make learning a daily part of their lives. Using mass cutomization software allows the user to create a page that reflects his job description, career interests, current project and team affiliations. Once the user has entered his profile the page should:

- Prominently display course content that matches the learner's job description and competency roadmap;

- Alert the user to appropriate news releases; and

- Announce upcoming seminars and events.

### Course Management System

Although it is less visible than either the front-end web interface or the course content, the Course Management System (CMS) plays a vital role in WELS. An analogy to describe the importance of the CMS is the automobile frame. Even though the frame is never seen, it is the platform upon which the entire car and each of its components is built.



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**Docent**

Docent is a leading developer of platform-based learning solutions. In a web hosted, thin client environment, Docent's Enterprise 4.0 offers businesses a flexible and dynamic platform from which they can manage their entire corporate learning environment. Specifically this includes: 1) assessing existing employee competencies, 2) collecting user profile data, 3) integrating existing training materials such as computer-based training courses, MS Word documents and MS PowerPoint presentations, 4) registering students online, 5) delivering web-based content, 6) managing certification online and 7) integrating data from enterprise resource planning applications.

The scalability, rapid deployment, and robustness of the Docent platform have not gone unnoticed on the experts. The PC Week "*Shoot Out"* recently recognized the company's Enterprise 4.0 as "standing out among a field of seven learning management systems." In particular, the judges were impressed with Enterprise 4.0's ability to align training with job performance.

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The frame is the first part of the car that is built as it rolls down the assembly line. As it goes down the line, the body and interior, which is analogous to the web front end, are placed on top of the frame. As the car continues down the line, the engine, transmission, axles, wheels are all assembled. These elements can be thought of as the content. The frame supports each of these items while the control inputs inside the car control the learning experience.

This, however, is where the analogy ends. While the car frame is the skeletal support the car is built upon, it is also a rigid, inanimate piece of steel. The CMS, however, is a continually evolving platform capable of numerous functions while supporting unlimited pieces of content (engines) and an ever-increasing number of users (drivers).

**click2learn.com, Inc. – A Wired World Company ™**

This fall, corporate learning development leader click2learn.com, formerly Asymetrix Learning Systems, broadened its entire strategy, transforming itself from a "turnkey" behind-the-firewall e*Learning solution provider, to also offering an Application Service Provider (ASP) model. The new model allows corporations to add an "instant virtual university" by giving them rapid access to a hosted learning environment that provides learners with thousands of content titles from multiple vendors including leaders such as NETg, MacMillan Publishing and Crisp Publications. These titles are augmented by the company's learning management tools, including the Ingenium skills and competency management platform, and click2learn.publisher, the company's unique browser-only, self-publishing authoring product. click2learn.com can rapidly customize the learning environment for its customers so that it has the look and feel of the client's corporate network, and clients can select customized catalogs of content that mix off-the-shelf courses with custom courses, delivered in any medium.

CMS programs can reside within the organization's servers allowing deployment over the company Intranet or outside the firewall on the vendor's servers. In addition to providing an environment that allows for the deployment of content, the CMS is responsible for:

- Providing tools for self-publication of course content;

- Tracking results of pre-and post-assessment examinations;

- Managing organizational competencies;

- Tracking course completions;

- Scheduling both web based and instructor led courses;

- Providing administrative functions such as access to user records; and

- Providing an environment for chat rooms and threaded discussions for users and mentors as well as synchronous learning environments that deliver real time group learning on the desktop.

## Saba

Saba is a leading provider of Internet-based solutions that enable global businesses and governments to create and deploy networks that connect their people to required learning. Through the Saba Learning Organization Solution, Saba provides an Internet-based platform for businesses and governments to deploy global business processes that quickly identify and close knowledge and competency gaps across the extended enterprise. At the same time, the Saba Learning Provider Solution offers content providers a channel through which to market and distribute their learning content globally. Building upon an installed base of learners and content providers, Saba recently launched the Saba Learning Exchange, an Internet learning destination. The Saba Learning Exchange is designed to serve as a community enabling global businesses, governments and learning providers to share, standardize, procure and distribute, their learning content.

As of December 31, 1999, over two million people were licensed to learn on Saba. To increase this base of learners quickly, Saba intends to continue to target large organizations, including Global 2000 and government organizations. Significant customers include 3Com, Agilent, Anheuser-Busch, Cisco Systems, Continental Airlines, DaimlerChrysler, Ford, GeneralElectric, Hyundai, Lucent Technologies, Procter & Gamble and Qwest Communications/US West. Saba offers customers access to thousands of content offerings. Content offerings are available from over 50 learning providers, including DigitalThink, ExecuTrain, International Air TransportAssociation, NETg, SkillSoft, SmartForce and the Sun-Netscape alliance.

## Knowledge Planet

KnowledgePlanet.com announced its new B2B solution for e*Learning that gives organizations access to KP 2000, a Workforce Performance Management (WPM) system, integrated with the e*Learning Marketplace where organizations have flexible purchasing options for training products and services from e*Learning Marketplace Partners, all leading training providers. The solution is offered through a membership subscription that ranges in price from $5 per user per month to less than a dollar per user per month based on the number of people enrolled under a membership agreement. The key difference between KnowledgePlanet.com and e*Learning portals is the underlying WPM system that goes far beyond delivering training. It focuses all work force development activity on attaining skills and desired performance levels required by an organization's business strategy. At e*Learning Marketplace, organizations find thousands of web-based training courses that have been adapted to run on the WPM system. e*Learning Marketplace streamlines the evaluation, purchasing, implementation and tracking processes for content.

**Gilat Communications**

Based in Israel, Gilat Communications is a leader in satellite based corporate learning. Gilat combines the global reach of a worldwide satellite network and a unique software and management platform to deliver live, high bandwidth corporate learning around the globe. The company's TrainNetPro interactive distance learning system provides tools for live, synchronous instructor led classes, asynchronous self-paced web-based training, as well as asynchronous pre- and post- assessments. The high bandwidth of the satellite network allows for a live, rich learning environment that gives the instructor complete control of the experience and allows for an unlimited number of participants. Current Gilat customers include Countrywide Home Loans, PeopleSoft and Rite Aid.

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### KEY e*LEARNING PLAYS

1. The leading Course Management Solutions will provide:
   - **Robust functionality – Registration, tracking, deployment, competency management and collaborate learning features**
   - **Highly Scalable – No noticeable degradation in performance regardless of audience size**
   - **Ease of Implementation – Days not weeks**
   - **Strong Content Partnerships – Large numbers of high quality partners with a wide variety of course titles**

2. Private companies that we believe deliver compelling solutions:
   - **Docent**
   - **Gilat Communications**
   - **Knowledge Planet**
   - **Saba**

3. Publicly traded providers offering "turnkey" ASP solutions
   - **click2learn.com**

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## The Prize - Content

As they say in real estate, content, content, content. Well almost, but we believe the most sizable opportunity in the corporate e*Learning model lies in content. Thus we believe that content vendors and, to a lesser extent learning management software providers with strong content vendor partnerships, will be best positioned to take advantage of the rapid uptake of e*Learning. While system integrators, tools providers and stand alone CMS organizations will thrive, for the most part once their products and services are installed, their opportunity in a given organization reverts to maintenance and service.

We expect that content providers will thrive over time fulfilling the razor blade model. As companies begin to realize the substantial business opportunities that e*Learning bestows upon the bottom line, more and more content will migrate out of the classroom and onto the desktop. Thousands of hours of new content will be developed to replace existing face-to-face learning while substantially more born-on-the-web content built from the ground up. Furthermore, desktop learning will open up new areas for content development far beyond those ever applied in the traditional instructor-led formats.

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### Hungry Minds

Hungry Minds, Inc. provides Internet users with a comprehensive and engaging, branded hub and marketplace dedicated to learning. Hungry Minds' mission is to guide users to learning products and services such as web based learning course titles, books, training, videos, websites and discussion groups. The Company has developed a database of learning experiences that is over 37,000 records strong and growing. It is the most comprehensive knowledge database on the Web. Hungry Minds plans to license the branded database into corporations for their use in providing training alternatives and experiences for their workforce. Hungry Minds' list of premiere partners includes University of Maryland, UCLA, University of California Berkeley, Western Governor's University, University of Phoenix, Open University, iVillage.com, Women's Network, Monster.com (TMP), Princeton Review, Harvard Business Press, Business 2.0, Rodale Press, Blackboard, Exp.com and WetFeet.com.

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The real long-term opportunity, however, is far bigger than the initial migration discussed above. As we have discussed throughout this paper, the power of corporate e*Learning is creating a direct link between learning and business objectives. Organziations are not static. Strategies, products, customers, vendors and partners will continuously shift in the quest to provide shareholders with maximum returns. Therefore, in each instance, new content will need to be developed, implemented and distributed across the extended enterprise.

**Payback Training Systems**

Emerging as the leading B2B application service provider focused on e*Learning for vertical markets such as hospitality, foodservice, supermarket and call center industries, Payback owns the best-practices, industry-specific libraries for these markets through a substantial network of subject matter experts and partnerships with trade associations. Payback's unique, next-generation "course publishing engine" runs on the Internet, extranets and intranets, LAN/WANs, and CD-ROMs without alteration or plug-ins through object-oriented, reusable learning object architecture. Payback is able to combine high quality course design with a mass-production model that supports robust customization for each customer. Payback's solution encompasses courses, assessments, certifications, EPS systems, learning management systems, knowledge communities and "learning structures." Payback's client list includes Ahold USA, Hilton Hotels, The Fleming Companies, Host Marriott Services and Outback Restaurants.

Content can come in many forms, serving a variety of business purposes. At one end of the spectrum is simple tactical business reference material stored in a database as meta-tagged bits which are easily located via a search engine and used to accomplish task oriented projects. At the other end of the spectrum are complete online university degree granting programs that are comprised of hundreds to thousands of hours of course content. In between lies a multitude of generic off-the-shelf course titles on topics ranging from IT training for specific software and hardware applications, soft skills titles in areas such as diversity, situational leadership, presentations skills and team management and business skills such as finance, accounting, and business writing.

In addition to fully web-enabled content, there is a substantial market for higher bandwidth video rich content. Due to the current capacity constraints of the web, these applications tend to require the use of software plug-ins, internal server hosting, satellite delivery, or high bandwidth local area networks. Although such applications do not meet the strict definition of web-based learning, there are many examples of high bandwidth video content that deliver quantifiable outcomes and costs savings and should not be overlooked as investment opportunities.

## National Technological University Corporation

National Technological University Corporation, is the recently formed for profit spin-off of National Technological University - the first accredited "virtual" university. NTUC broadcasts over 20,000 hours of instructional content annually and is moving very rapidly into the corporate e*Learning space. NTUC aggregates content from over 50 partner universities including M.I.T, U.C. Berkeley, Georgia Tech, Columbia University, University of Illinois and University of Southern California. NTUC also sources content from other leading corporate training organizations and features such prominent business thought leaders as Tom Peters, Michael Porter, James Champy and Tim Berners-Lee. With its recent acquisition of PBS The Business Channel, NTUC gained exclusive worldwide rights to the PBS name for distributed learning to the corporate market - one of the most powerful brand names in educational media. An existing customer base of over 200 blue chip companies such as IBM, Hewlett Packard, AT&T and Motorola give NTUC an inside track in the race to the corporate desktop.

## ZDU

ZDU (http://welcome.zdu.com), the business-to-business online learning solution of Ziff-Davis Education, provides enterprises with best-of-breed web-based training that enables knowledge cost effectively across the workforce. ZDU currently offers over 500 web-based courses in technology topics ranging from desktop applications such as Microsoft Word, Excel and Power Point, to design and media tools such as Photoshop and PageMaker, to advanced technology subjects such as Java and HTML programming. ZDU also offers a suite of business skills courses in partnership with Harvard Business School Press and a comprehensive online IT reference library powered by Books24x7.com. ZDU has 350,000 subscribers. ZDU customers include Intel, Gateway, Honda of North America, Micron Computer, Toyota Motor Sales, the Simon Property Group, the State of Texas and the White House.

**Strategic Interactive**

Strategic Interactive (SI), part of the PROVANT solution, is a leading provider of project specific, web-based learning solutions for Fortune 500 companies. By leveraging an experienced team of systems engineers, performance technicians, web developers and graphic designers, SI designs, develops, integrates and maintains corporate learning environments within secure intranets or through Internet access. SI does not deliver a commoditized solution, but rather creates a customized system that matches a client's technical capabilities and learning needs. SI leverages core system components for reuse or modification such as Training Management, Personal Development, Assessment & Competency, Employee Selection and Career Planning systems. The company provides both technical expertise and instructional design to deliver easy-to-use, interactive and visually stimulating courseware for employees. SI boasts an impressive list of clients including Ford Motor Company, Motorola, GM, Dow Chemical, Chevron, and 3M.

We could write tomes rating content, however, we do not profess to be experts in instructional design and we will leave this to the professionals. Instead, we will share some of our key insights that we believe will help investors make sound decisions in the space.

- **Off-the-Shelf Content.** Developers of high quality, engaging content that is applicable within any company without customization will find themselves at a significant competitive advantage. Since the development costs of the content can be spread across millions of individual seat licenses, we believe such providers will garner much higher margins and revenues.

- **Custom Development.** Conversely, custom developers will find themselves at a significant competitive disadvantage since their designers will spend significant time developing courseware with proportionately smaller revenue potential and potentially higher development costs.

- **Hybrid Model.** Understanding the limitation of developing one-off titles, many developers are moving to a hybrid model. In such an arrangement, the vendor agrees to develop new content for a customer but retains the rights to the content or its more generic components and pays a royalty back to the launch customer for each future sale to a third party. In this fashion, vendors can leverage the development costs across mutiple customers, thus substantially expanding both revenue and margin opportunities.

- **Open Architectures.** Historically, many vendors produced courseware written in proprietary source codes. This short sighted approach meant that the content could not reside in the same environment with course content from other vendors or utilize a common CMS. We believe open architecture is the basic entry fee into the world of e*Learning and that proprietary models will find smaller and smaller opportunities and will be relegated to second tier status.

## KEY PLAYS

1. Be mindful of repurposed CD-ROM or classroom content that requires plug-ins and players to function in a web environment as well as vendors performing only low margin, custom course development work

2. Look to leaders with:

   - sound instructional design capabilities;

   - born-on-the-web functionality; and

   - large catalogs that focus on specific large horizontal markets such as IT or specific vertical industry groups that are highly regulated where employees need continuous certification

3. The most compelling public market play is **SmartForce**, in our opinion.

4. Private Companies that we believe deliver compelling solutions:

   - DigitalThink – Solutions-based learning systems focusing on IT and soft skills to the financial services and technology industries

   - Pensare – An e*Learning B2B network providing technology infrastructure and content including accredited graduate business programs from Duke, Wharton and Harvard

   - UNext – Provider of branded graduate business course content from London School of Economics, Columbia and Stanford

   - eMind.com – Strong catalog of regulatory oriented course content for the financial services and accounting industries

   - Payback Training Systems – Leading provider of content to foodservice and hospitality industry

   - ZDU – Catalog of WELS-based learning courses focused on IT and desktop applications

   - Ninth House Network – Network provider of broadband management and leadership simulations

   - National Technological University – Provider of video-based online learning content

   - Strategic Interactive – Leading developer of online learning solutions

   - Hungry Minds – Branded knowledge hub and e*learning marketplace

## VALUATION PARAMETERS

The e*Learning industry is almost directly comparable to other companies that are using the power of the Internet for B2B delivery of content, infrastructure and services. Several well-known e*business companies are leveraging the Internet to facilitate purchasing, the building of e*Commerce infrastructure, or the internal management of scheduling and design flow such as Ariba, E*piphany and Agile. Similarly, integrated e*Learning solutions providers are leveraging the Internet to revolutionize the delivery of intellectual capital to employees, customers and suppliers. For example, we would argue that SmartForce is providing integrated delivery and management of critical content and services just as Ariba is managing the purchasing function across enterprises.

We acknowledge that the benefits provided by the typical e*Business solutions providers are somewhat more transparent than the benefits of an integrated e*Learning solution. The return on investment of streamlining the purchasing function over the Internet or generating e*Commerce revenue is readily visible even to the most casual observer. However, enlightened corporations and investors are realizing that e*Learning is much more than just a cost saving alternative to classroom learning. It is a strategic means of educating all parties in the enterprise value chain and has a direct positive impact on sales, customer relationships, employee recruiting and retention as well as a host of other factors. The positive ROI case studies which the e*Learning providers are rapidly accumulating now demonstrate that their solutions are perhaps more valuable than the best of the e*Business providers.

Thus, in valuing the e*Learning companies, we look to the best of the e*Business providers as comparables. We look for companies with the best in terms of content or access to content through partnerships (in fact, this is almost assumed). We also look for outstanding delivery platforms that enable access to content as well as tracking and competency measurement throughout the extended enterprise. And of course, we look for management teams that have a proven, successful track record. Assuming all of these drivers as a prerequisite, we use three standard valuation methodologies:

1. Total enterprise value as a multiple of one-year forward calendar revenues (TEV/Rev)

2. Market value as a multiple of one-year forward calendar earnings (if earnings are available)

3. And, discounted cash flow or discounted net income.

Due to the nascent state of the e*Learning market and the lack of publicly traded e*Learning companies, we believe that in the near term the most appropriate comparables are B2B e*Business leaders such as Ariba, Commerce One, E*piphany and Vitria.

**Business-to-Business (B2B)**
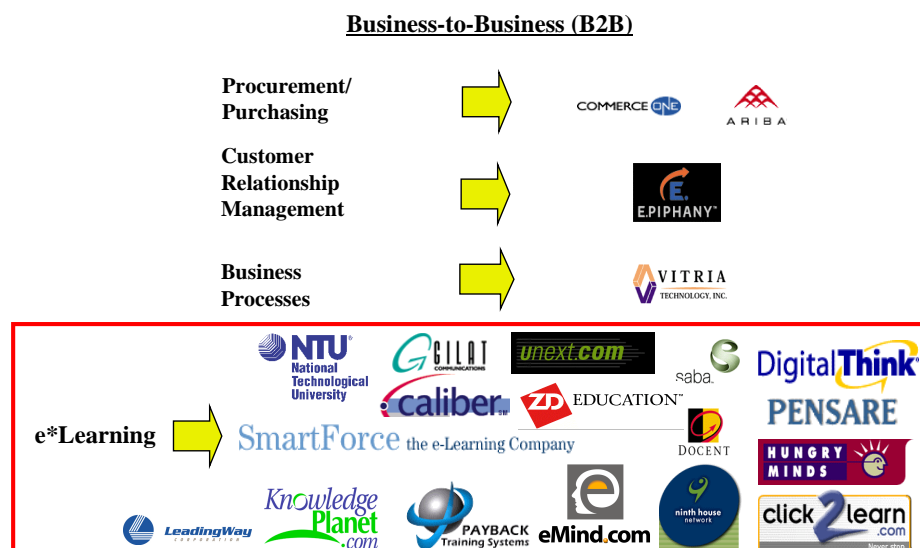


Source: Company documents and Thomas Weisel Partners

On a TEV/Rev basis, this group of B2B e*Business leaders trades at very high multiples, with several of them trading well north of 100x future revenue.  Revenue multiples can be all over the map, but in general, the more leveragable the business model, the higher the achievable revenue multiple.  Companies with productized e*Learning solutions that are highly scalable and rapidly deployable deserve a higher multiple than those that provide customized solutions with a high consulting component.

Once the initial group of e*Learning leaders has caught the B2B wave during Q1 and Q2 of 2000 and have completed successful initial public offerings, an established market for public e*Learning equity will emerge.  This will allow investors to focus on this space as a distinct investment vehicle and use these pioneers as a direct and discrete set of comparables.

We also note that there can be a tremendous difference between fully-distributed trading multiples and the multiples that companies should expect to realize on an IPO.  During 1999, most e*Business IPOs were completed at multiples of between 5 to 10x 2000 estimated revenues, with the expectation of potential significant after-market multiple expansion assuming the company performs according to expectations in the after-market. We would expect similar pricing multiples to exist in 2000.  This year, however, these multiples and valuations will be based upon 2001 estimated revenues.

Earnings multiples are a rarity in today's Internet economy.  For those companies that have earnings, we are P/E to growth investors.  A good rule of thumb is that a company should trade at a one-year forward P/E equal to its expected three to five year earnings growth rate.  The more visible the earnings growth and the more leverage in the business model, the more likely that the P/E will trade at a premium to the growth rate.

The discounted cash flow or discounted net income methodology can also render a very broad valuation range. DCFs are an excellent secondary method to provide a "sanity check" on a revenue-based valuation. A sound DCF requires a set of well-supported projections that take the company's financial statements out several years to the point of maturity of the business model. In using the discounted net income approach, we apply an assumed one-year forward P/E multiple to net income once the company's business model has matured. We expect the P/E multiple to be in line with the company's projected long-term EPS growth rate. Thus, for a company expected to grow earnings at 30%, we might use a forward P/E range of 25-35x. We then apply a discount rate to the assumed future market value of the company. Discount rates can also cover a broad range. However, given the risk profile of most early stage e*Learning companies, most investors require a rate of return that is at a significant premium to average expected equity returns. While the valuations using this methodology can vary significantly depending upon the assumptions, we believe this represents a sound methodology since it is based upon the future core earnings of the business.

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|---|---|
| **ACADIO CORPORATION**<br>www.acadio.com | Acadio is an online destination for professionals seeking information, products, and services related to continuing, and self-directed, education. |
| **achieveglobal**<br>www.achieveglobal.com | AchieveGlobal is a resource for helping organizations translate their business strategy to business results by developing the skills and performance of their people. |
| **Berlitz**<br>www.berlitz.com | Berlitz International is a language services firm providing language instruction, translation, and publishing servicesworldwide. |
| **Bb**<br>**Blackboard**<br>www.blackboard.com<br>www.blackboard.com | Blackboard Inc., an Internet infrastructure company, provides a leading software "platform" for colleges, universities and other education providers to bring their academic, administrative and campus community services online. |
| **blue U .com**<br>www.blueu.com | blueU.com develops and provides web-based training courses focused on the development of IT, financial and business skills. |
| **caliber**<br>www.caliberlearning.com | Caliber Learning Network, an affiliate of Sylvan Learning Systems, offers interactive distance learning services for corporations and universities, enabling them to create training and education programs delivered through the Internet to desktops. |
| **CENQUEST**<br>www.cenquest.com | Cenquest partners with leading universities to deliver graduate business degrees to professionals over the Internet. |
| **click2learn.com**<br>www.click2learn.com | click2learn.com, formerly Asymetrix Learning Systems, is a provider of e-learning solutions that enable organizations to create, deploy and manage Internet-based training and education inside a company or in an ASP model. |
| **CognitiveArts**<br>www.cognitivearts.com | Cognitive Arts designs and develops custom and commercial multimedia learning environments, as well as innovative human-delivered instruction. |
| **DIGITALED**<br>www.digitaled.com | Digital Education Systems is a developer of Web-based training that combines content with Web-based interactive technology and graphics. |

Source: Company logos and company websites

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|---|---|
| **DigitalThink**<br>www.digitalthink.com | DigitalThink designs, develops and deploys e-learning solutions to Fortune 1000 companies, providing an integrated solution that combines course content aligned with its clients' business objectives. |
| **DOCENT**<br>www.docent.com | Docent is a provider of e*Knowledge infrastructure and learning solutions. |
| **DOW JONES UNIVERSITY**<br>DJU.COM<br>wsw.dju.com | Dow Jones University offers online courses covering investing and the financial markets. |
| **DPEC**<br>www.dpec.com | DPEC offers customer-driven, web-powered learning; courses are used for ongoing computer, professional development and practical skills training and just-in-time reference. |
| **Education Systems** LLC<br>The Center for Travel Education<br>www.educationsystems.com | Education Systems is a complete travel education provider for individuals, schools, and professionals. |
| **eduneering** inc.<br>ADVANCED LEARNING TECHNOLOGY<br>www.eduneering.com | EduNeering is an instructional design and technology firm specializing in Internet and Intranet delivery of computer-based learning systems. |
| **ED|χ**<br>www.ed-x.com | Ed-x's Distance Learning Channel was created to serve as a "one stop" portal web site for universities seeking to get the message out and for learners desiring to gather information regarding distance learning programs from around the world. |
| **eMind.com**<br>www.yipinet.com | eMind.com, formerly Yipinet, is a B2B Business Service Provider of complete e-learning solutions for vertical markets, providing clients solutions that include hosting, vertical specific and horizontal course content, consulting, custom course development and an industry specific learning platform. |
| **GILAT COMMUNICATIONS**<br>www.gilat.net | Gilat Communications offers satellite based corporate learning, combining the global reach of a worldwide satellite network and a unique software and management platform to deliver live, high bandwidth corporate learning around the globe. |
| **GlobalEnglish**<br>www.globalenglish.com | Global English offers a comprehensive business English curriculum for a wide variety of English language learners. |
| **Global Knowledge**<br>www.globalknowledge.com | Global Knowledge Network generates and manages competence for individuals and organizations of all sizes through its worldwide training delivery system. |

Source: Company logos and company websites

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|---|---|
| **Global Learning Resources, Inc.**<br>www.glresources.com | Global Learning Resources provides advice, analysis, strategic planning assistance, workshops and on-going consultation focused around corporate education, staffing and retention. |
| **Headlight.com**<br>www.headlight.com | Headlight.com is a source of online training for small and medium-sized businesses. |
| **HUNGRY MINDS**<br>www.hungryminds.com | Hungry Minds.com is an online learning portal geared toward lifelong learning for adults. |
| **hycurve**<br>www.hycurve.com | HyCurve provides Internet-focused training and certification that gives professionals the knowledge and skills needed to effectively deploy Internet, Intranet and Extranet business solutions. |
| **Integrity Training, Inc.**<br>www.integritytraining.com | Integrity Training offers design and development of interactive internet-based learning, intranet-based learning, and computer-based learning. |
| **knowledgenet®**<br>www.knowledgenet.com | KnowledgeNet delivers next-generation e-learning solutions to IT professionals worldwide. |
| **Knowledge Planet.com**<br>www.knowledgeplanet.com | KnowledgePlanet.com is a B2B e*Learning solution that combines its Workforce Performance Management (WPM) system with its e*Learning Marketplace where organizations have flexible purchasing options for training products and services from leading training providers. |
| **KNOWLEDGE UNLIMITED INC**<br>www.ku.com | KU is an educational publishing company specializing in current events programs, poster sets, videos, and teaching kits, as well as the line of Zino Press Children's Books. |
| **KNOWLEDGE UNIVERSE**<br>www.knowledgeu.com | Knowledge Universe is a family of companies that provides lifelong learning opportunities and meets the needs of individuals and businesses to realize their full potential through the acquisition of knowledge. |
| **LeadingWay**<br>www.leadingway.com | Through their Integrated Learning and Knowledge Management (ILKM), LeadingWay helps companies to reduce costs, improve productivity and create value by extending training management to knowledge management. |
| **Learn2.com**<br>www.learn2.com | Learn2.com is a provider of learning solutions, using the Internet and interactive technology to offer "the new way to learn", dedicated to transforming the educational experience by delivering a full spectrum of learning solutions directly to the desktop anytime, anywhere. |

Source: Company logos and company websites

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| **LRN** – The Legal Knowledge Company™<br>www.lrn.com | LRN, The Legal Knowledge Company, is a Web-based legal portal providing 24/7 access to custom research and analysis, experts, frequently asked legal questions and compliance education. |
| **Lotus.**<br>www.lotus.com | Lotus Development Corporation, a subsidiary of IBM Corporation, is redefining the concept of conducting business through practical knowledge management, e-business and other ways of connecting the world's ideas, thinkers, buyers, sellers and communities via the Internet. |
| **medschool**<br>www.medschool.com | Medschool.com is a community-oriented online provider of integrated, multimedia-based medical content. |
| **MiND BLAZER**<br>www.mindblazer.com | MindBlazer.com is a Live Internet Learning company focusing on the distance learning needs of businesses and associations; service offerings include simulcasting of existing live conferences via the Internet; corporate and private label in-house, live, Internet learning events; and live, interactive Internet classes to fulfill continuing education requirements. |
| **MindQ®**<br>www.mindq.com | MindQ Publishing is a worldwide provider of IT training solutions, and offers a unique approach to self-paced learning. |
| **NTU®**<br>www.ntu.edu | NTU is an accredited, degree-granting university, offering a wide range of for-credit and non-credit courses from a working alliance of universities and leading training organizations. |
| **NETg**<br>www.netg.com | NETg, a subsidiary of Boston-based Harcourt General, is a developer of technology-based training, with a portfolio of multimedia courses in several languages, covering professional IT, desktop and personal development skills. |
| **NIIT** The Global IT Solutions Corporation<br>www.niit.com | NIIT's mission is to deliver IT education to a broad spectrum of people, from students seeking a career in computers to IT professionals requiring advanced skills, from managers giving their careers an edge to children using computers as a learning tool. |
| **ninth house network**<br>www.ninthhouse.com | Ninth House Network is a broadband media network for e-learning, with a mission to change the face of corporate professional development with the creation of an interactive, personalized, and cinematic e-learning solution. |
| **OnlineLearning.net**<br>www.onlinelearning.net | OnlineLearning.net is an online supplier of continuing higher education and is dedicated to providing busy professionals with the tools needed to pursue their lifelong learning objectives. |

Source: Company logos and company websites

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| **Pathlore**<br>www.pathlore.com | Pathlore Software is a technology-based training software and services company developing training solutions in any computing environment for Global 2000 companies. |
| **PAYBACK Training Systems**<br>www.paybacktraining.com | Payback Training Systems is a developer of Web-Based Training solutions for large employee populations in the service industries, including the supermarket, foodservice, general retail, and hospitality sectors. |
| **PENSARE**<br>www.pensare.com | Pensare is a provider of Knowledge Community™ online learning solutions, combining an approach based on applied learning and human interaction with the world's top business schools and innovators to create success in the new economy. |
| **Productivity POINT INTERNATIONAL**<br>www.ppinh.com | Productivity Point International provides customized technology learning solutions to corporations and IT professionals. |
| **prosofttraining.com**<br>www.prosofttraining.com | ProsoftTraining.com is a global Internet solutions company committed to providing comprehensive curriculum and skills-based Internet certification programs. |
| **RE-CERTIFY.com**<br>www.re-certify.com | Re-Certify.com offers customized executive educational management service for licensed and certified individuals in the medical, legal, insurance, aviation, accounting/financial, business and technical professions. |
| **saba**<br>www.saba.com | Saba is a provider of e-Learning infrastructure to Global 2000 companies, enabling businesses to continuously assess, plan, distribute, measure, and improve learning for customers, partners, employees, and suppliers. |
| **Skills ONLINE**<br>www.skillsonline.com | Skills Online is dedicated to providing high quality business skills products, delivering offerings through multimedia technology including but not limited to Intranets, CD-ROM and the Internet. |
| **SkillScape**<br>www.skillscape.com | SkillScape offers Internet/Intranet-based software solutions such as SkillScape Competence Manager™ which is a competency management software solution, and SkillScape Recruiter™ which acts as a company's competency-based web recruiting portal on the Internet. |
| **SmartForce** the e-Learning Company<br>www.smartforce.com | SmartForce, formerly CBT Systems, provides enterprise-wide e*learning solutions for over 2,000 customers worldwide. As part of its solution the company offers over 1,100 SmartCourses in both the IT and performance skills areas. |

Source: Company logos and company websites

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| www.smartplanet.com | SmartPlanet, a unit of Ziff-Davis, is a linked set of interests dedicated to personal and professional areas such as Arts & Society, Body & Mind and Career & Business. |
| www.smginc.com | SMG is a full-service management training solution provider.  Applying its Business Improvement Process, SMG delivers a foundation of experiential learning-based products and services which include self study tools, learning events, computer-based training, Internet-based training, and simulations. |
| www.siweb.com | Strategic Interactive, part of the PROVANT solution, is a provider of project specific, web-based learning solutions for Fortune 500 companies.  SI designs, develops, integrates and maintains corporate learning environments within secure intranets or through Internet access. |
| www.taecan.com | The Taecan.com Internet delivery system enables professionals to earn their required certification credits whenever they want to, not just during fixed schedule seminars. |
| www.teach.com | Teach.com, a provider of flexible e-learning solutions, offers multimedia courseware and helps  knowledge workers improve productivity and performance. |
| www.teamscape.com | Teamscape provides a place on the web to unify all learning at a company; offerings include curriculum planning, content integration, scheduling and logistics, student enrollment, course delivery, competency management, and comprehensive reporting. |
| www.tentv.com | TENTV.COM is a video-based online learning company, offering a variety of flexible, just-in-time learning and communication services for business professionals. |
| www.thinkinteractive.com | Think Interactive is an online professional development center dedicated to providing convenient, top quality interactive training to meet the continuing educational needs of today's busy professional. |

Source: Company logos and company websites

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| **trainingnet.com** OWN YOUR FUTURE <br> www.trainingnet.com | TrainingNet is a business-to-business e-commerce marketplace for skills training and professional education, representing over 1,200 providers in over 25 soft skill and information technology categories. |
| **unext.com** <br> www.unext.com | UNext.com is dedicated to the development and delivery of advanced education over the Internet. Through its new online learning community, Cardean, UNext.com is working with universities such as Stanford University and the University of Chicago to bring world-class education to the global marketplace. |
| **UNEXUS** University <br> www.unexusu.com | Unexus offers a complete Executive Masters of Business Administration on the web. |
| **UNIVERSITY ACCESS**™ <br> www.universityaccess.com | University Access  is an Internet learning company specializing in broadband content for business education for the undergraduate, graduate and corporate markets. |
| **WebCT** Web Course Tools <br> www.webct.com | WebCT is a Web course platform for higher education institutions. |
| **youachieve.com** <br> www.youachieve.com | youachieve.com is a multimedia publisher building a skill-boosting resource center delivering content, exclusively over the Internet, to individuals and corporations. |
| **ZD EDUCATION**™ <br> http://welcome.zdu.com | ZDU is devoted to online learning, offering a variety of courses for today's most popular software applications and advanced technologies. |

Source: Company logos and company websites

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## ENDNOTES

[a] Training Magazine, *"Wired Wired World"*, David Stamps, August 1999.
[b] *Ibid.*

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