E-learning technology, content and services

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Abstract

Defines e-learning as the appropriate application of the Internet to support the delivery of learning, skills and knowledge in a holistic approach not limited to any particular courses, technologies, or infrastructures. It considers e-learning core products of content, technology, and services. The emphasis is upon the importance of integrated learning paths that vary according to the student, the subject material, the level of competence, and corporate or student preferences. Successful implementation of e-learning requires the same management commitment as other mission-critical organisation-wide initiatives. Most of all e-learning needs to be compelling to the audience it targets, offering the learner a resource that is seen as appealing, valuable and productive to their goals and aspirations.

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E-learning evolves

As recently as 18 months ago, there was really no such thing as "e-learning". People talked of "online learning", "computer based training" and even "Web" or "Internet" based training, but the term "e-learning" had not really been invented. Yet a short time later there are literally thousands of companies in the e-learning business. Until the recent and ubiquitous devastation in the world's high-tech stock markets, the investment banking community were literally giddy with excitement about the potential for e-learning "plays" and one leading industry figure has even described e-learning as the next "killer application" for the Internet – one whose potential will make e-mail look "like a rounding error" according to John Chambers, chief executive officer of Cisco Systems.

Corporate and campus agendas too, have started to recognise e-learning as having the power to really transform the people, performance, knowledge and skills landscape, so much so that International Data Corporation estimate that the corporate spend alone on e-learning will increase from $1bn in 1999 to over $11bn in 2003. But with all of this attention, the rush on the part of vendors to position themselves prominently in this new "gold-rush" and a market that is at worst curious, at best anxious to play, comes much confusion and a great deal of inconsistency. Very legitimately one can stop and ask so just what, exactly, is e-learning?

E-learning application

It is tempting to rush in with the standard "industry" or "vendor" centric thing and position the industry to suit what it is we actually sell. It is also tempting to start with all of the industry-jargoned terms like learning objects, learning management systems, hosted server environments and virtual classrooms. But first, let us start talking about what is important, and what is relevant – what is it that e-learning actually does and how can it add value in response to real business problems and challenges? Let us imagine:

- Let us say that I am a training and development manager or HR executive in a corporate organisation, and I recognise

that the skills, knowledge and "intellectual capital" of my workforce is going to be key to the success of my organisation. I have to support, in terms of education, an organisation-wide transition of the company to an e-business culture (high priority – this is CEO driven!) and an overview for all employees of the new "performance management" process the company is adopting. But I also have the challenge of meeting the more day-to-day education needs of my employees in such areas as IT (for the growing IS department) desktop, application and basic Web/Internet skills organisation-wide and certain management skill competencies for my graduate intake and "fast-track" programme. I have limited budgets, I have the challenges of making this education available to my dispersed employee base and time is of the essence ...

· Or let us say that I am director of IT in the same organisation and, by-and-large, I have an established portfolio of training and education "responses" to the various skill and knowledge needs of my group. I use classroom training for some of the more "hands-on" needs areas (although from a range of suppliers, and I know I am probably paying top price for the courses) and a number of "online" courses for various other subjects. But I know that I need to be more organised in how I manage this training function – I know that I could drive greater economies if I managed the various offerings (classroom and online) better, and the HR group are putting pressure on me to adopt "best practice" in defining the various competencies, job roles and associated skills and knowledge around my group ...

· Or perhaps I am an employee with this company. Like most of my colleagues I have a busy job and I do not really have much time for training. But I know that our company and our market is changing. I know that my PC skills need to be better and that I am not really up-to-speed on all of the "B2B" and e-business projects we are implementing. I want to get on in my career and I know I do a good job in my role. But my success

in the company going forward will mean that I have to know about all of these things, and I am ambitious! I certainly do not have time to attend lots of courses, and I am not even sure that "courses" that tackle exactly the things I need exist. What I really want is access to online learning for the basic PC skills I need to improve on, and short, sharp "lessons" on what's happening in the e-business world and occasional access to the "best of breed" thinking and knowledge (books, articles, seminars, etc.) on e-procurement, CRM and Web marketing. Although I cannot possibly attend formal classroom courses on these subjects, would it not also be nice if I could have an expert to turn to when I needed it? ...

These are all just examples, and there are many more, but they are fairly true to life. And these are precisely the kinds of ways in which a solid e-learning initiative can add tremendous value – at minimum cost, organisation-wide and in Internet speed! Any definition of e-learning will attract debate, but here is one that should be generic enough to keep most satisfied:

> ... the appropriate application of the Internet, and Internet technologies, to support the delivery and management of learning, skills and knowledge.

Pretty wide, certainly, but the reality is that true e-learning solutions, as opposed to the myriad e-learning products and services touted by the thousands of vendors, are all about a holistic approach to training, education and knowledge in the corporate (or other) environment, and are not limited to any given set of courses, technologies and/or infrastructures.

Also, the availability and successful implementation of comprehensive, effective, high-value e-learning programmes will be what ultimately drives training and education beyond limited "point" based approaches (I need these courses for these people in this timeframe) to a true business application based footing (what are the learning and development implications of this business need, that corporate initiative or this specific business problem?) For example SmartForce is actively engaged today in many client-driven e-learning

programmes which are less about traditional "point" training projects – that is defined courses for specific audiences over stated timescales, and more about learning and education to support certain corporate initiatives, problems or challenges. These include, for example, implementation and management of corporate universities or other Web learning programmes, mentoring programmes for top executives, skills and knowledge readiness of sales and distribution channels on client's products and services, education, testing and compliance in product, service and regulatory knowledge, organisation-wide change, e.g. e-business initiatives, etc.

Another fallacy about e-learning, especially relevant in view of many widely-held concerns about Internet security and performance, is that e-learning must happen exclusively on the Internet. True, the Internet gives us many collaborative, real time, connected-community advantages that are difficult or impossible to replicate in a private, closed network environment, but many of the powers of Internet based learning can be just as easily harnessed across a corporate intranet environment.

So, what is e-learning?

Throughout all of the confusion and inconsistency referred to earlier, there is at least widespread acceptance that a "total" e-learning solution comprises the three key elements as defined in Figure 1 and Table I.

If you consider the now thousands of vendors that have entered, or migrated into, this relatively new e-learning industry phenomenon, you will note that they invariably fall into one of the three categories (see Figure 1) – their core "product" will either be a content, technology or services e-learning offering. Drilling down to the next level of detail, which elements are comprised within each piece?

Content is king?

It is worth taking a closer look at what we mean by e-learning "content". Content, after all, is what really delivers the business benefit;

Figure 1 Comprehensive e-learning solution
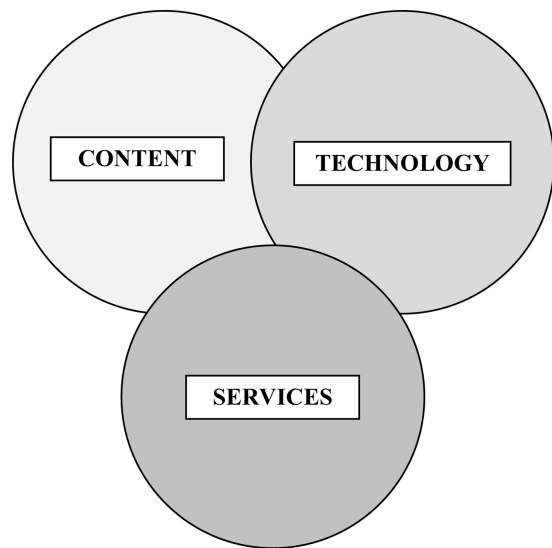
it is what really adds to the knowledge, skills and capabilities of your human capital, or does not! And the whole definition of learning content has changed forever.

No longer will content be defined within rigorous and inflexible "course" parameters – online or classroom. The Internet and its associated technologies have enabled us to integrate many diverse learning resources and events into powerful and cohesive learning paths. SmartForce, for example, has defined multiple learning object types, each employing differing technologies and approaches, within its new-generation e-learning paths (see Figure 2).

The reality is that we have always used a variety of sources, mediums and events to learn. The conventional definition of training has perhaps been something that takes place within a classroom or computer-based course, but we've always supplemented these courses, albeit informally, by means of articles we read, conferences and seminars that we attend, presentations from subject experts, interaction with our colleagues and with acknowledged experts, projects we undertake and tests and assessments we perform. And the ultimate e-learning content available today combines all of these learning events and resources into integrated learning paths that vary according to the student, the subject material, the level of competence and corporate or student preferences.

Table I

Content

Generic e-learning education and knowledge content (courses, events, resources, mentoring, collaboration, etc.)

To support wide access to learning materials, events, etc. in generic "off-the-shelf" areas (e.g. IT, desktop and applications, management and personal skills, e-business, finance, etc.)

Classroom content

Internally and externally provided

Whilst traditional classroom instruction can not really be regarded as "e" enabled, it is clear that no e-learning implementation can be complete unless it wholly incorporates classroom education within the total programme. Competency definitions, learner and content management and back-end reporting will need to focus on what is delivered in the classroom as much as what's delivered online

Published content

How easy will it be to incorporate into your e-learning solution those other custom content elements that you want to "webify" or build?

May include existing paper or classroom-based resources, and/or new e-learning content, specific to your needs, which you want to develop or have developed for you

Does the solution include content development and publishing tools, and can your partner offer access to content development resources and expertise?

What other "knowledge" or non-learning content might you want to make available via your e-learning platform?

Technology

Technology infrastructure

Internet, intranet or hybrid delivery platforms and infrastructure

Facilities for "offline" (e.g. mobile) and remote access

Capable of integrating across diverse geographical and network infrastructure environments

Intuitive and appealing user interface(s). Personalisation and customisation capabilities

Learning content management systems (LCMS)

Options for delivery, tracking, management and reporting of online content, or more sophisticated so that all learning offerings (incl. classroom) can be managed within the same software-based environment

Ability to deliver and track all of these multiple content types within the integrated environment (not just "links to . . .")

Learning management systems (LMS)

Capabilities for skills dictionaries, competency definition and mapping, performance management and 360 assessment, employee development plans

Financial and activity tracking/reporting

Integration with other HR processes and systems

Learning technologies

Integration within the e-learning solution of "best-of-breed" learning technologies (e.g. mentoring, chat forums, expert-led discussions, Web seminars, online meeting and virtual classroom sessions, etc.)

Use of standard and open Web technologies that may change as new technologies and "best in class" vendors emerge

Ability to leverage these technologies for your own applications – learning and other – as well as to support generic e-learning programmes

Services

Consulting

Strategy and design of your overall e-learning programme

Integration of the e-learning application with other learning systems (e.g. classroom sourcing and booking systems) and with critical business processes and enterprise applications

Outsourcing, facilities management and managed service

Support

Assistance with implementation of the e-learning programme (launch, marketing and promotion, technology platforms and infrastructure, management feedback and reporting, ROI, content and approach selection vs education needs, etc.)

Technical and implementation support

Design and build services

Build of custom content for your specific education and information needs

Transfer existing materials to online format

Tailoring and customisation of the e-learning platform and delivery environment, and integration with other applications

Figure 2 SmartForce learning objectives
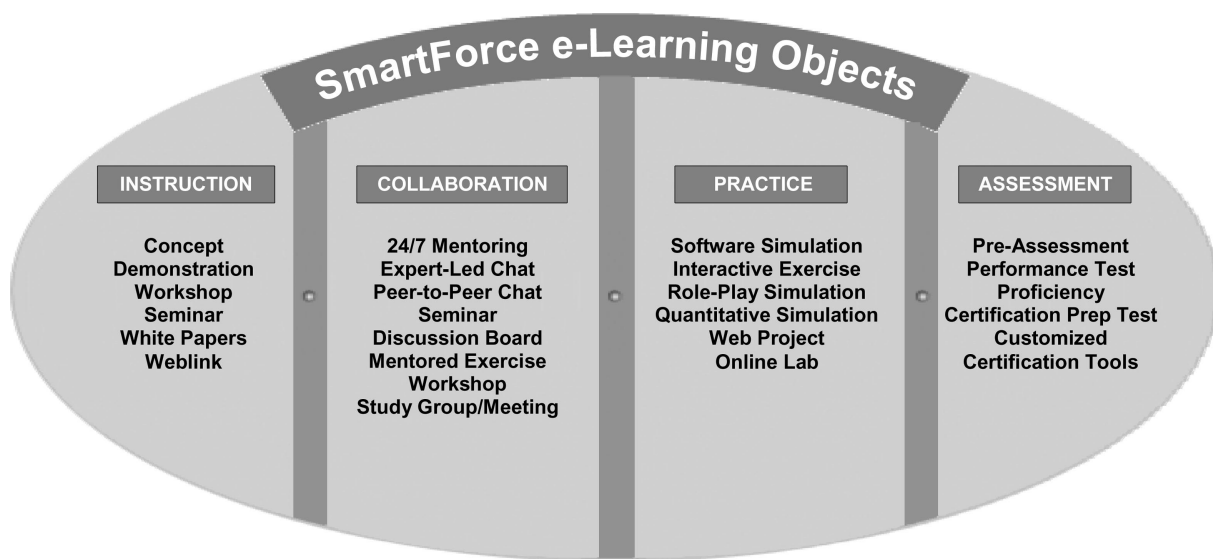
Importance of integration

However, the paramount issue in e-learning is not only about what the content looks like, whether it is a hosted Internet or intranet service nor how the LMS communicates with your corporate HR software. The real issue is about how *all* of the elements above are integrated, and how this integrated whole is launched, implemented and managed within your organisation.

The market presently, as alluded to earlier, is in a state of flux. It is unsurprising, perhaps, that there is so much attention to this content versus that, this LMS versus the other, this hosted versus intranet strategy and this Web meeting or virtual classroom technology versus another. But such a granular approach loses sight of the real mission, and sells the buyer short in their quest for a cohesive, powerful "e"-exploitation of learning. And it will take time for the industry as a whole to rise above this "bottom-feeding" and focus on real solutions – after all, the consolidation hasn't even begun!

Let us look at many of the questions that people are forgetting to ask when they look at implementing e-learning solutions:

- Am I clear on why I need to implement an e-learning programme? Is it because I am trying to support a specific business objective, because I need to drive down the costs and drive up the productivity of my training and development efforts, because I need to get more "e" into my classroom-dominated approach, or is it because my current efforts are just a patchwork of offerings around which I need to wrap some structure and organisation? Or is it simply because I think I should be "doing" e-learning?

- What, given my needs, are likely to be the extent of "product" offerings (e-learning content, classroom, custom-built content and published content) I need to make available? What efficiencies and improvements can I achieve by sourcing these from as few, carefully-chosen vendors as possible?

- Do I fully understand the implications of implementing learning and content management systems, integrating the content (e-learning, classroom, etc.) and leveraging learning tools and technologies (mentoring systems, virtual classroom technologies, content development tools, etc.). If I do, am I prepared to bring these responsibilities and activities in-house? What vendors (and other customers, for that matter) have really demonstrated the ability to do this?

- Should I consider developing and building, in-house, the other elements of an e-learning implementation that are totally specific to my needs, for example, building and publishing custom content, mapping of competencies and skills databases, integration of e-learning with my corporate finance and HR systems, etc.?

- How can I be sure that the solution I implement will scale globally, to my entire organisation? How do I address all of the technological and cultural challenges that I will face?

In other words, there is a strong and ever-growing body of opinion, especially in the light of some recent implementation catastrophes, that the winners in the e-learning space will be those companies that can provide most, if not all of the above in a cohesive, consistent, integrated solution. And to those of you whose timid response is "why would I put all of my eggs in one basket" let me only point to the evolution of ERP systems and the rise of the enterprise software giants as just two recent examples that it is not wrong, in fact it is eminently sensible, to buy a solution from the vendor that can offer the "best fit" – never likely to be the full 100 per cent – to the needs of the buyer.

Successful implementation

Finally, let us look at "where the rubber meets the road" in e-learning. The actual implementation of it in your organisation, the needs of your learners and the ability to demonstrate return on investment to management. Like Kevin Costner in *Field of Dreams*, we know we can build it, but will they come?

At SmartForce we have helped several thousand customers to implement successful e-learning programmes, covering anything from small, one-time course or project needs, right up to the world's very largest rollouts, covering tens of thousands of learners in dozens of countries. There are some clear lessons to be learned. E-learning implementations must be viewed in the same way that one would view any other mission-critical, organisation-wide initiative. It will require senior management commitment, change management initiatives, understanding of cultural and technological obstacles, internal marketing and clear ROI metrics. But most of all, it will need to be compelling to the audience it targets, to offer the learner a resource that will be seen as appealing, high-value and productive to their goals and objectives.

What then are some of the key messages to bear in mind as we contemplate a significant e-learning rollout in our organisations?

Programme design and vendor selection

- Be clear on what we are trying to achieve in embarking upon the initiative. Support for a specific corporate initiative, improvement or streamlining of the education and development process, increased skills and knowledge in a specific or widespread range of subjects, higher productivity or lower cost of training, e-business or other corporate transformations, support for field employees or distributor channels, etc.
- What are the metrics associated with this goal, and how will the success of the programme be measured? How will such data be captured within the programme to facilitate ROI reporting?
- How do I intend to assess my needs? Do I envisage a formal RFP programme, or do I want to forge an alliance with a leading vendor with whom I feel comfortable, and work with them to architect the programme?
- Is there a single vendor, or a small number of vendors, who can address the "critical mass" of my overall needs. Do they have relationships and alliances with other vendors such that they can fill the gaps on the pieces they cannot offer me?
- There are many different components of what might be called a "complete" e-learning solution. Which of these do I need? Which are the highest priority? Can one vendor offer me a solution where much of the integration of these many diverse components has already been done, or am I prepared to invest time, resource and money to integrate them in-house?
- Given that "learner appeal" will be a major contributor to the success of my programme, have I researched, extensively, the best content, usability and user interface, and not just the elements that are important to me as a manager of training and education?

Programme implementation

- What are the steps I can take to secure senior management buy-in to my e-learning programme. How can I

leverage this commitment in elevating its positioning?

- What are the various technological and cultural characteristics of my distributed audience that I need to take account of in designing the overall implementation?
- How am I going to launch the programme? What am I going to do to make it visible and appealing and to generate some excitement around it?
- How do I help my target audience to relate the offerings to their needs, wants and job-roles?
- How do I intend to keep my offerings current, and to avail myself of advancements in e-learning best practice and deliverables?
- How do I integrate this e-learning process into my other HR (developmental, recruitment, retention, career-planning, performance management, etc.) processes?

These, and many other questions, need to be carefully considered when embarking upon a major implementation of e-learning. There is no doubt that the benefits can be enormous, but, as we have seen, the market is at an early stage in its evolution and customers, by and large, have not yet typically become sophisticated buyers. The over-riding advice is to stand back throughout the process and clearly recall exactly what it is we are trying to achieve. And remember, of course, to work with those companies who have consistently demonstrated their ability to get it right!