

## Engaging in the Future of eLearning: A Scenarios-based Approach

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*eLearning has been heralded as a transforming influence on education and corporate training. Despite such rhetoric, the exploitation of eLearning has been slower than anticipated. We examine the future of elearning by adopting a scenario planning approach. Our conclusions suggest the scenarios have been a valuable starting point in engaging in a more informed discussion of how elearning may transform education and training and the ways in which people learn over the next decade.*

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### Introduction: The Growth and Diffusion of eLearning

By the end of the 1990s, eLearning was predicted to become one of the fastest growing, knowledge-based industries in the developed world and the single most important transforming influence on education and corporate training and development (Sloman, 2001). The key market drivers underlying these developments were thought to be: (a) the role of organizational knowledge and intellectual capital in the competitive strategy of organizations and the needs of organizations to learn more rapidly than competitors (Cairncross, 2003), (b) the failure of corporate training departments to demonstrate ‘bang for buck’s using traditional methods of delivery and the promise of elearning to achieve major corporate savings in delivering fast and flexible training (Bassie, et al, 2002), (c) the increased ‘network readiness’ of many developed and developing economies, and the combined developments in information and communications technology and approaches to learning that could take advantage of online delivery of education and training (Leavis, 2002), and (d) the cash crises in the western university sector (Economist, Nov 22<sup>nd</sup>, 2002) and a number of innovative examples of universities and businesses in the higher education sector that had clearly demonstrated radical improvements in the effectiveness and efficiency of learning, (Howard, Schenk & Discenza, 2003; Leavis, 2002)

There were, however, expectations of different rates of adoption and diffusion between the USA and within Europe and Asia, in part because of greater American familiarity with technology-based learning and in part because of the supportive contexts for technology-based learning (Van Den Branden & Lambert, 1999; Martin, Massy & Clarke, 2003). In a major report (IDC, quoted in Hambrecht, 2000) the market for eLearning content and services in the USA was expected to double in size every year, reaching approximately \$11.5billion by 2003. At the same time as these figures were being produced in the US, industry reports were estimating that the elearning market in Europe would have grown from 2001 figures of \$0.8billion by more than 120% in 2001 to reach almost \$6-10 billion by 2005, with the UK by far the largest adopter (Hambrecht, 2000).

Yet despite the rhetoric and excitement generated by these new forms of technology-based learning that promised to revolutionize education and training, the growth and penetration of eLearning, even in the USA, has not fulfilled its predictions (Leavis, 2002). Even industry experts have recognized that the expectations of eLearning have been “unrealistic” and “over hyped” (Straub, 2002,). For some commentators this diffusion and adoption failure comes as something of a surprise, given the supportive institutional context of certain countries and the interventionist aspirations of others. For example, the cultural and institutional conditions of the USA would appear to be uniquely supportive of such developments in learning. On the other side of the Atlantic, though perhaps lacking the naturally supportive contexts of the USA, the European Union has pursued an interventionist policy by investing heavily in elearning to make Europe “the most dynamic knowledge economy in the world” (Reding, quoted in Martin & Jennings, 2002). Yet, even in a country as close to the US in institutional and cultural character as the UK, the most recent major study of training and development showed that, for example, British firms and universities have been relatively slow to adopt eLearning (Sloman, 2001, Leavis, 2002).

Thus the general questions might be posed to all stakeholders in education and training: What is the future for eLearning and what factors are likely to help or hinder its adoption, diffusion and exploitation? Answering such questions has relevance not only to individual organizations and educational institutions but also to the emerging eLearning industry worldwide.

## The Background to the Research and Methodology

### Background

Scottish Enterprise (SE) is one such national economic development agency that has taken major steps to implement the EU policy on elearning and to provide a nurturing role for the nascent elearning industry in Scotland. In 2001 SE developed an 'eLearning Programme for Scotland', which was aimed to 'help Scotland become internationally recognized amongst the global leaders in the design, development, and application of eLearning'. This programme comprised a number of inter-related strategic interventions, mostly undertaken on a partnership basis, to address the above questions. These interventions included (a) the formation of the Interactive University, (b) funding the formation of the Scottish eLearning Alliance, an industry network body, and (c) bringing together international experts on eLearning and related industries to Scotland in the form of an annual conference. This conference series has been branded as eLearninternational and was first run in Edinburgh, 2003 to benefit the international and Scottish elearning communities:

- Developing relationships between the Scottish and International elearning communities
- Exploiting the knowledge held within the international eLearning
- Provide a focal point for strategic-level discussions among the international eLearning communities
- Raising Scotland's profile in the international eLearning community

### The Scenario Planning Approach

Forecasting the future has a notoriously poor reputation, especially in forecasting technological breakthroughs an increasingly unknowable world (see Graham, 2004; Fuller, 2002). However, it is simultaneously argued that policy makers and organizations need to ask sensible question in relation to their relevant future(s) so that they can anticipate problems and possible solutions. Creating strategic scenarios or scenario planning has become an accepted method of engaging with the future by asking such questions and using a more discursive approach than traditional forecasting techniques.

Creating the Edinburgh Scenario's comprised five stages (see Figure 1). It should be noted that the particular approach to scenario planning used here differed from the norm: by combining the more formal scenario planning interviews with conference summit workshops, the process resulted in a more inclusive and, arguably, extensive form of qualitative, action-centred research. The approach was also used because of the wider learning objectives of SE outlined previously.

Figure 1: The Scenario Building Process for the Future of eLearning



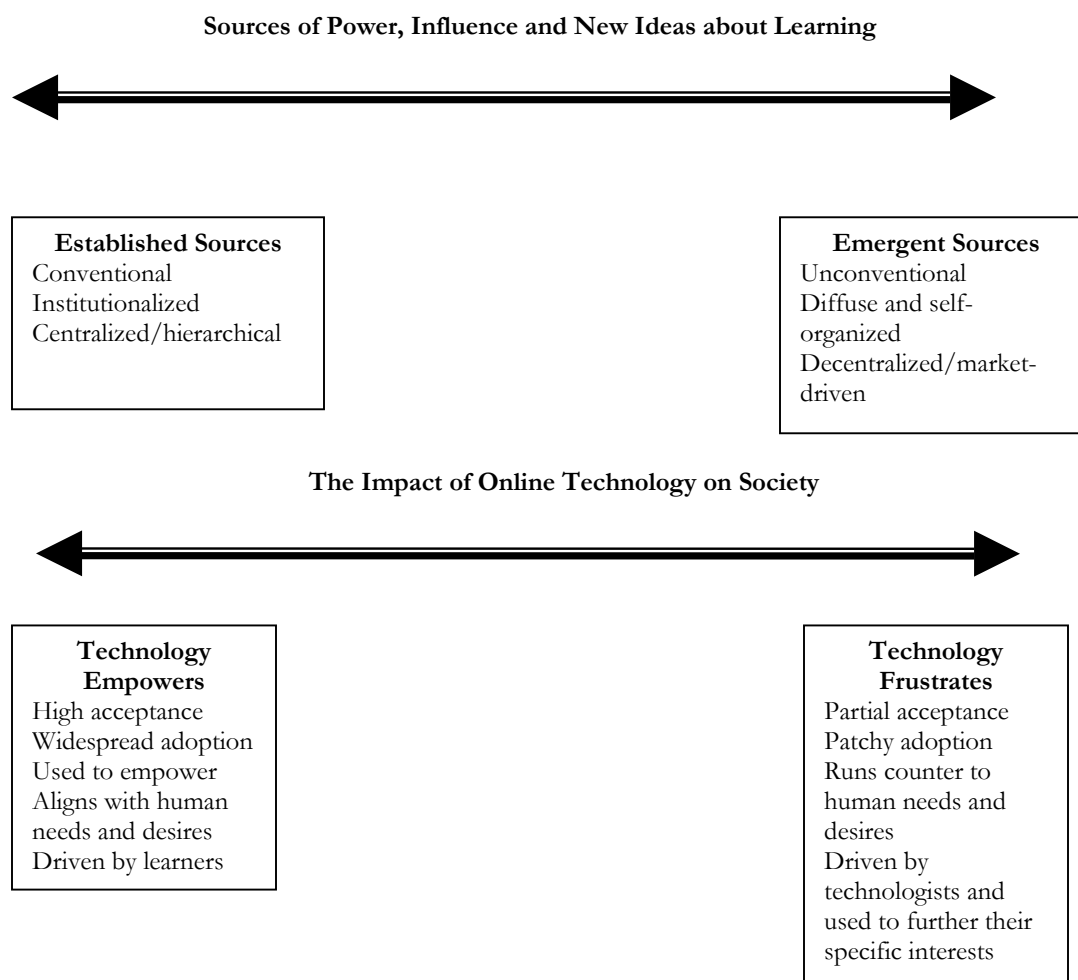
1. A series of in-depth interviews with sixteen acknowledged international experts on eLearning drawn from different countries and from the different sectors of the economy.
2. The second stage involved: feeding back these data from the expert interviews to an expert panel of twenty individuals drawn from the Scottish educational and corporate sector in a day-long facilitated workshop to help validate the uncertainties and create the basis for the four scenarios; similar exercise with US experts; a workshop was conducted with Scottish schoolchildren, who have been described as 'digital natives' or 'digital students' (Prensky, 2001; Seely Brown, 2002)– that is, the generation that has grown up learning with computers and with digital technologies such as gaming.
3. The third stage involved feeding back the scenarios to the experts interviewed in stages one and two, and hosting a major online discussion two months prior to the conference summit.
4. The fourth stage was the presentation and discussion of these scenarios to the 250 conference attendees; data from these conference workshops were recorded and used to further refine the scenarios.
5. The fifth stage, which is still ongoing, comprises a series of strategic discussions which are taking place internationally, both face-to-face and virtually. These discussions, and not necessarily the scenarios, are really the intended outcome of the process for SE and, in the case of the Scottish elearning community, are being evaluated in terms of their impact on strategic actions by key participant in that community.

This multi-stage approach to scenario generation allows for the amalgamation and development of ideas from experts from different spheres (academic and practitioner) to produce potential 'futures', a task that would be difficult if traditional qualitative methodologies were adopted.

## The Data and Scenarios

There is no space in a short paper to provide details of the interviews data and workshops on which the scenarios were constructed. Instead, in this section, we restrict ourselves to reporting on the content of the scenarios themselves. First, however, we briefly discuss the major uncertainties that were distilled from the interviews and workshops. One of the major strengths (and weaknesses) of the scenario building process is the identification of dominant themes or dimensions of meaning from the qualitative data. The usual process is to distil as much of the data as possible into two dimensions of meanings that can be orthogonally related to form a two-by-two matrix. Such a process allows participants to simplify a myriad of data to provide the basis for strategic discussions. There is a formal process for identifying dominant themes, which involves expert participants in the workshops to use nominal group techniques to isolate and ‘vote’ for their key uncertainties.

Figure 2: Axes of the Edinburgh Scenarios



These two dimensions were combined together during the workshops to produce four, scenarios, which are described in Figure 3. The scenarios were used to create possible futures for discussion for four major interest groups – individual learners, the education sector, commercial organizations and their training departments and government and are summarized in tables 1-4.

Figure 3: The Edinburgh Scenarios

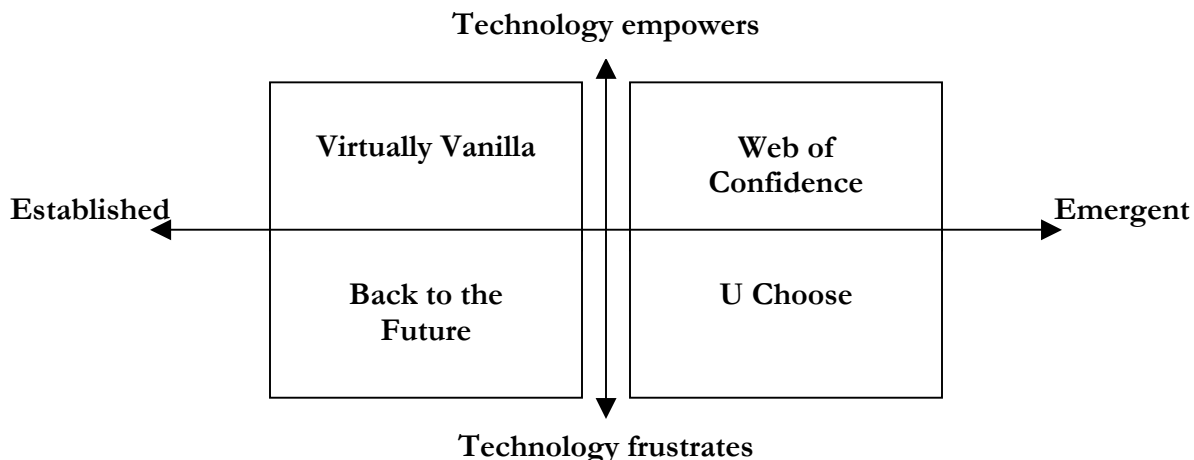


Table 1: *Back to the Future (Technology frustrates, power retained by established players)*

This is a world where the confusion, fear and complexity of technology results in a loss of trust in the integrity of on-line learning. Powerful established institutions return to the more “traditional” values and methods of teaching and learning, seeking low-risk predictability in a turbulent world. Such a scenario has its roots in dialectical theories of social change, in which every thesis creates its own antithesis (Morgan, 1997).

*General Storyline:* The consequences of the 1990s technology boom only became apparent a decade later. The spread of the internet leaves a legacy of crime and anarchy across the world as identity theft, viruses and hacking crippled any attempts to use communications technology for the wider good. These impediments to global economic growth fell particularly hard on the fast-growing Asian nations, dependent on global capital for their infrastructure investment. People looked to Western governments and their economic models for security and solace. They distanced themselves from many elements of technology, leading to a retreat to more traditional forms of learning. This suited many governments, who were becoming increasingly concerned by the lack of results from their significant investments in e-learning. Academics agreed, arguing that traditional modes have been around for 1000 years for good reason. Many influential figures argue that the internet had “set education back” 20 years. Schools and universities that emphasized traditional values and methodology of teaching were back in fashion. Learning became a lot more conventional again - which had its advantages in a turbulent environment.

Table 2: *Virtually Vanilla (Technology advances, power retained by established players)*

This is a world where technological advances create the potential to access all kinds of knowledge and new learning opportunities. Power, however, is centralized within established institutions, so access and use is mostly governed by large corporations, governments and global universities. This type of thesis is consonant with economic, business and knowledge systems that are based on hierarchical forms of organization and control rather than being market-driven (Fuller, 2002).

*General Storyline:* This is a world of technology progress and productivity. An economic recovery continued to fuel the relentless march of connectivity, as developments like pervasive broadband create an acceleration in the amount of content and interaction that happens over networks. Society also learns how to deal with and use this information more wisely, as science helps us understand more about how we learn. Access to on-line sources is widespread – but only for those who can pay. Powerful institutions - large corporations, governments and increasingly, global universities - set common standards and protocols for e-learning, and exert widespread control over intellectual property rights, ensuring that they see financial benefits in the rising demand for learning across the world. On-line learning becomes the default way that companies pursue training - it is far more efficient as information can be accessed easily. But there is a general sense of commodification: while technology does allow for some personalization of the learning experience, it is still largely constrained by the imagination of the designers within the consortia of

corporations, governments and universities that dominate the learning fields.

Table 3: *U Choose (Technology frustrates, power shifts to emergent players)*

This is a world where people are frustrated by new technology and claims of technological progress, yet find new ways to challenge authority and gain greater influence over many aspects of their lives, including learning. This results in a world where the focus of attention moves away from technology and big institutions, towards issues of local importance. Such a scenario is reminiscent of a ‘catastrophist’ thesis, which highlights the chaos and decay of modern societies and makes a claim for a return to a pre-Enlightenment virtue.

General Storyline: This is a world where technology-supported learning is under-utilized. Thanks to deep economic problems, evidence of corporate corruption and a seeming inability of governments to put these right, people have grown to mistrust the words and actions of Western political and corporate leaders. These doubts have combined with a general frustration about traditional models of education, leading to millions of people resisting the technological progress and more rigid enforcement of targets and standards. elearning doesn’t seem to offer a solution, and technology seems to frustrate rather than empower. The most effective users of communications seem to be organized crime networks; spam clogs the networks and hacking sap peoples’ confidence in the security of the systems. People begin reassess the value - and means - of learning in society and seek to return to pre-Enlightenment values. Learning is conducted in small scale groups, more focused on the local needs of learners and the community. Technology is still used, especially to find out information. But on-line communities are an exception - the ties that pull people together seem to be very local.

Table 4: *Web of Confidence (Technology advances, power shifts to emergent players)*

This is an increasingly technologically connected world, in which we see powerful, effective advances in technology, where individuals are able to work and learn together in new ways. Power shifts way from large organizations and as a result, new ideas come from various, unlikely sources. Such a scenario is consonant with newer theories of modern forms of work organization, in which technological progress functions to allow market forms of organization, e.g. outsourcing, cellular, networked, project and virtual forms, to become the models for the future (e.g. Cairncross, 2003).

General Storyline: This is a world where intellectual capital dominates and where learning is widespread and helps individuals earn high levels of economic rent. However, it is barely recognizable from previous decades. If the 1990s saw massive leaps in ICT capabilities, the following decade showed us exactly how these changes would transform society. It was nothing short of a power shift: those comfortable with technology - the digital natives - found ways to create their own learning experiences that fundamentally challenged the prevailing power bases created by educational policy - and governments had virtually no levers to stop it happening. The most exciting developments were taking place in vibrant Asian cities, where the technology and market-oriented changes had a dramatic, direct effect on the nature of education in those societies. There was a serious mistrust of large institutions that wanted to control many aspects of peoples’ lives: what they bought, how they looked, and what they learned. Encouraged by instant connectivity, the examples of multi-player games, and some recent research indicating the powerful effects of informal learning, people found themselves with far more control over their learning than ever before.

## Discussion

This article has described the process by which one national economic development agency attempted to engage in an international discussion on elearning with the aim of helping policy makers ask testing questions of the future. Although it was not part of the SE’s remit, it may also be worthwhile reflecting on the usefulness of the scenarios themselves, in the light of views expressed at the conference, subsequent online discussion, and emerging evidence.

Reflecting on the *process* of scenario planning itself, there is a danger inherent in such exercises or, more accurately, in how scenarios are sometimes interpreted by the rationally inclined mind. As is often the case with qualitative research techniques that produce quasi-rational representations of reality the quadrants often take on a more concrete form than was ever intended by the researchers. In effect, they become the future. The dangers here are all too obvious: ‘give someone a hammer and every problem is likely to become a nail’. As a consequence, we

experienced a number of examples of either/or thinking, in which participants regarded the scenarios as predictions and simplifications of the future, usually with a view towards controlling it. One comment from the online discussions over the scenarios illustrates this tendency eloquently:

*'The polarities expressed in this quadrangle are way too arbitrary. Unless they are challenged, the conversation is really a theoretical exercise. It gives us a chance to practice debating skills, but (is) not a fulcrum for solving real problems. The assumptions made in the scenarios all hinge on the validity of two sets of arbitrary polarities. I have strong doubts about the usefulness of this diagram as a reliable data mode'* (Posted by SA, January 3<sup>rd</sup>, 2004 on <http://www.internettime.com/lmct/archives/001121.html>).

The scenarios were intended to provide multiple metaphors of realities, which we pleased to see, was the perspective adopted by the majority of participants in the face-to-face and online discussions. By drawing on 'both/and' thinking, embracing paradoxes and drawing on the different metaphors embedded in the scenarios, policy makers and practitioners should be able to construct a more complex storyline or diagnostic reading for their organizations than is possible with even the most sophisticated linear forecasting methods (Morgan, 1997). The following quotes from postings on the online discussion highlight this constructivist attitude to scenario planning:

*'Scenario thinking is not strategic planning and (is) not meant to be set in stone. The four quadrants of the matrix are like signposts on a road. You're not sure where you're headed, so keep looking down the roads every day to see what happens. Eventually one will look like the right road, and that's the one you might take. It's about being able to be slightly ahead of the curve of the future before the infamous tsunami rolls over you.'* Posted by DG, January 4<sup>th</sup>, 2004 on <http://www.internettime.com/lmct/archives/001121.html>).

Concerning the *usefulness* of the scenarios, it was not the intention of SE's elearning international conference to provide a critique of the scenarios but to offer a platform and meeting place of 'future focused' discussions. Having made that point, we are inevitably drawn into the debate on theorizing about the future, since the scenarios can be thought of as a form of inductive theory construction. And, as we have seen from one of the comments above, there were some important questions concerning validity.

On this issue, we restrict ourselves to asking three questions concerning useful theory in this area. The first of these is: do the scenarios resonate with other related theorizing that might provide some cross validation for the scenarios? Our answer to this question is a qualified yes. In Tables 1 to 4, we have indicated how the four scenarios map onto existing theories in the field of organizational, technological and social change. For example, the Web of Confidence strongly resonates with current and popular theorizing about the key role of knowledge in society; the belief in technological progress; the power of information and communications technologies (ICT) to produce transformational and beneficial changes; and the consequent impact of ICT on new organizational forms, which heralds a move towards market forms of control and more flexible and postmodern forms of organization (Cairncross, 2003; Clarke, 2001). On the other hand, Back to the Future, reflects a dialectical theory of change (Morgan, 1997) in which the optimism and directions of the Web of Confidence contain within it the seeds of a growing cynicism, pessimism and opposition to technological progress and postmodern organization, a strain of argument often found in the literature on technical change. The early histories of China, India and Spain and their failure to capitalize on early technological, educational and business 'know-how' advantages over Britain and northern Europe in the 17<sup>th</sup> century should tell us that such a scenario is inherently plausible (Fuller, 2002). One must qualify this kind of cross validation, however, by pointing out that these scenarios are likely to reflect and well as reflect back on well-entrenched ideas, theories-in-use, assumption and values of the key participants in the scenario building process. In other words, one might legitimately pose the question: Do these scenarios add much new to what currently exists in current social and organizational theorizing? We think yes, because there are few attempts to use these more general theories to shed light on technology-based learning.

The second question that might be asked is: Do any of the scenarios have any early empirical justification or 'traction'? Not surprisingly, participants at the conference tended to see the Web of Confidence as an aspirational scenario towards, since this was based on a strong narrative of optimism and progress associated with many technophiles. Evidence from the higher education sector suggests that this scenario is already with us, at least to some degree. The recent emergence of new private players in the US higher education market is putting intense pressure on that market to fragment, despite the existence of powerful players from the traditional and for-profit sector. For example, Couturier (2003) has pointed out that the growth of the University of Phoenix as a challenge to the conventional university sector in America is misleadingly skewing the conversation towards dominance by a few large-scale organizations (Virtually Vanilla), since there are more than 600 degree-granting, for-profit institutions operating there, and another 4000 non-degree granting for-profit colleges. From the perspective of learners, there is also evidence of generational differences and the emergence of 'digital natives' (Clarke, 2004) or 'digital students' (Seely Brown, 2002), who prefer to learn through digital games than through conventional books. He has argued that the US military and major corporates are beginning to take this approach seriously by evolving new designs for

learning around the ecology and community of games, which draws on evocative, bottom-up and highly participatory learning. The lesson for re-inventing universities, he suggests, is to think hard and laterally about what can be done off-campus and well as on campus. By using the virtual to help the physical, the reach of universities can be extended so that much wider and more effective communities of practice can be established. Such virtual networks help universities learn from communities and well as help nurture them; they also help universities stay in touch and learn from experienced alumni as well as provide them with a source of lifelong learning.

At the same time, however, there is also evidence of a return to tradition among certain higher education institutions and, moreover, some competitive advantage in not following the herd. Brand advantage, based on exclusivity, tradition and trust in learning approaches and delivery mechanisms that have been in existence for a thousand years is evident in the attitudes and strategies of certain, prestigious establishments. There is also a strong argument that universities are not only 'credentialing institutions' or 'knowledge delivery mechanisms', which remains the focus of the major online and distance schools, but provide hugely beneficial learning communities in which students learn how to 'be' (learn how to learn and learn complex social strategies that cannot be learned in a virtual classroom). They also provide strong social networks, on which students can draw for many years in the future. Thus Back to the Future may also be a vision of the future for many of the world's elite universities for years to come and, to the extent that these universities act as role models for a nation's education system (such as Harvard in the US and Oxford and Cambridge in the UK), the forces of tradition may well act to restrain the 'old world' in its adoption of elearning.

As we have already hinted, Virtually Vanilla is yet another scenario that has a good deal of traction. Following some early false starts, there is evidence of merger, networking and concentration in the education sector to provide online provision, most notably among the more prestigious universities. These universities are also collaborating with major publishers, such as Thomson's and the Universitas 21 group, or with major technology companies, such as UK e-Universities and Sun Microsystems, or with publishers and technology suppliers, such as the Edinburgh Business School collaboration with Pearson Education and Blackboard (Leavis, 2002; Couturier, 2003). However, there are limits to this concentration. At the same time as the prestige universities are seeking to collaborate to provide 'premium-branded', online content, which is the main source of their intellectual capital and ability to command premium fees, the costs of producing good-quality content and its perceived importance in third generation elearning are declining, and the pressures towards open sourcing are growing (Garrison & Anderson, 2003). Link this argument of the declining value of educational content with the increasing desire of individuals to seek greater online interaction and you can foresee limits to strategies based on the publishing of content on the internet. Perhaps the underlying message of MIT's online delivery strategy are important here – that you need to go to the brick university to get the real source of educational value, which, they would argue, is to create effective *communities* of learners, academics, practitioners and alumni. Universities, as we have suggested, are not merely delivery mechanisms, nor are student's passive receptors.

In the corporate world, there is evidence of another form of merger, about which surprisingly little was developed and discussed in the scenarios, and that is the merger between elearning and knowledge management. Study after study has shown knowledge management and organizational learning as a key driver of organizational strategy, the most recent being the study of international human resource management practices in global companies by Sparrow, et al., (2004). Creating and sharing knowledge in these firms through online communities of practice (Wenger, 2004) and global expertise networks (Brewster et al., 2002) possibly represents the greatest potential for the elearning industry as it seeks to become integrated into the core of business activities.

The third question is: Does the framework provide practitioners with some useful insights so that they can create more appropriate strategies for the future? There is little doubt that participants in the interviews, workshops, those who took part in the online discussion and those who attended the 2004 Conference workshops found this a valuable and engaging experience. Some early analysis of the Conference feedback has indicated that the Edinburgh Scenarios were well regarded as useful starting points for conversations on the future of elearning and its impact on policy and practice in education and training (<http://www.internettime.com/lmct/archives/001121.html>). The question remains, however, will such a process lead to policymakers and practitioners taking actions that are influenced by their reading of the future(s)?

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