1. Introduction

Recent years have seen a growing trend for organizations to adopt e-learning as a training method catering for specific needs. Although the US currently represents about 50% of the global corporate market, e-learning is also being implemented by a range of European organizations, with economic factors only partly accounting for this choice (Temperiti, 2010).

In general, the reasons prompting companies to opt for e-learning training programmes may be summarized as follows (Garavaglia, 2010):

- the need to train staff members based at remote locations;

- the need to achieve economies of scale when providing basic training to a large number of employees;

- the need for greater customization of training programs and greater flexibility regarding timing and mode of delivery.

The e-learning phenomenon, now several years into its development, appears to be more than a passing trend. Indeed the sector seems set for further growth and consolidation, especially given the difficult economic climate currently faced by European countries. In this study, we explored the factors influencing the online learning sector, in order to identify the market requirements driving its
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development as well as the strengths and opportunities offered by the different “solutions” currently available.

Specifically, we wished to define the criteria adopted by market players in deciding on and constructing the “e-learning solution” of their choice. We also aimed to identify the range of options available, in light of both technological developments and the new organizational requirements of HR and IT departments.

To achieve these research aims, we focused on leading e-learning providers that are market leaders in specific sectors or geographical areas, collecting our data from the following sources:

- Interviews with the marketing managers of an availability sample of major providers;
- Analysis of the solutions, products, and services offered by leading providers;
- Questionnaires to selected corporate customers of e-learning products;

Specifically we conducted in-depth interviews with representatives of six leading providers who agreed to participate in the research, analyzed the websites of ten providers (including those interviewed) and collected anonymous questionnaires from 125 end-user companies of different nationalities.

2. Criteria for selecting an e-learning solution

Choosing an e-learning solution is undoubtedly a complex task that involves different levels and functions within a company and varies from user to user. The responses provided by the companies in our sample, the majority of whom were already using e-learning for staff training, showed that the most important criteria guiding their choices concerned general aspects of provider quality and service: for example, competence (82%), quality of customer care (63%), positive references and testimonials (58%). In addition, competitive price (66%) was an important variable. It seems that the critical factors influencing the decision are less related to the type of solution offered than to the requirement that it be solid, safe and affordable.

From a technical point of view, a key aspect affecting companies’ choices was whether it is possible to integrate the services and products purchased into existing systems (74%). This finding reflects one of the major challenges facing companies in recent years, that is to say, the need to simplify access to applications, information and IT in general: indeed, integration of the software applications and systems serving the different areas and functions of the organization has become a matter of survival. Also related

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1 We would particularly like to thank CornerstoneOnDemand, Docebo, Edutech, eXactLearning and Upside Learning for their extensive and valuable collaboration.
2 The companies that completed the questionnaires were drawn from a non-probability sample, in part selected from providers’ customer lists and in part recruited through a network of professionals with an interest in e-learning and spread across a number of online communities and social networks.
3 See Table 1 for the detailed percentages.

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to this need was the interest expressed in **cloud** solutions (43%), a new trend which seems destined to consolidate further given the relative ease with which cloud technology may be integrated with other systems. The issue of integration also underpins the requirement for **APIs** (33%), while both the demand for **scalability** (34%), that is to say, the possibility to adapt the system to a rapidly varying number of users, and interest in **Saas** (21%) are linked to interest in cloud solutions.  

Meanwhile, for the survey respondents **Learning Management Systems** remained the core of online learning, and although key improvements have been made to all LMSs on the market, ease of use especially in terms of navigation (56%) was flagged as a key purchase criterion. There was also strong interest in the availability of **mobile** versions of the platforms offered (37%), demand for which is obviously growing on the back of the recent spread of smartphones and tablets in the professional field.

With regard to the demand for production of tailored content (34%) versus the availability of a range of ready-made solutions (35%), there appeared to be a similar level of interest in both options. Thus, as might be expected, this criterion varies as a function of specific needs and contexts.

<table>
<thead>
<tr>
<th>Item criteria</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>Competence</td>
<td>82</td>
</tr>
<tr>
<td>Integration with other information systems</td>
<td>74</td>
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<tr>
<td>Low price</td>
<td>66</td>
</tr>
<tr>
<td>Customer Support</td>
<td>63</td>
</tr>
<tr>
<td>References/testimonials</td>
<td>58</td>
</tr>
<tr>
<td>Quality/user-friendliness of LMS</td>
<td>56</td>
</tr>
<tr>
<td>Cloud</td>
<td>43</td>
</tr>
<tr>
<td>Mobile version of LMS</td>
<td>37</td>
</tr>
<tr>
<td>Consulting</td>
<td>35</td>
</tr>
<tr>
<td>Learning Objects (retail)</td>
<td>35</td>
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<tr>
<td>Development of Learning Objects</td>
<td>34</td>
</tr>
<tr>
<td>Unlimited Scalability</td>
<td>34</td>
</tr>
<tr>
<td>Integration with other applications through APIs</td>
<td>33</td>
</tr>
<tr>
<td>Saas - Software as a Service</td>
<td>21</td>
</tr>
<tr>
<td>Talent Management System</td>
<td>21</td>
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<tr>
<td>Content Network Distribution</td>
<td>20</td>
</tr>
<tr>
<td>Hosting</td>
<td>18</td>
</tr>
<tr>
<td>Fast Time To Market</td>
<td>18</td>
</tr>
</tbody>
</table>

*Table 1 – Answers to multiple choice question “What criteria do you apply when choosing an e-learning solution?” (percentage out of total questionnaires compiled)*  

4 Those who indicated that they were interested in Saas solutions also marked “cloud” as a selection criterion.

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It is interesting to analyze these data in light of the information provided by the leading providers interviewed. Service provision is actually quite differentiated on account of the need for providers to rationalize organizational structure and number of staff: some companies offer primarily consulting services, especially if they have a background in business consulting for the HR sector, while others seem to focus on specific technological solutions.

Providers in the former category mainly offer solutions involving a single Human Resource Management and Training system (integrated e-HR and e-learning), while those in the latter group specialize in solutions for the integration of LMS with existing HR management systems.5

The former include companies such as Saba, SumTotal and Cornerstone, whose systems have a strong focus on talent management: this type of solution does not enjoy strong demand a priori given that it requires complex planning and the adoption of a long-term view on the part of the client organization.

The latter are mainly companies with a background in the IT sector, often specializing exclusively in educational technologies, such as eXactLearning, Upside Learning, Edutech and Docebo. These companies focus more strongly on hi-tech products and services, such as the development of sophisticated learning objects for mobile devices, simulations with increasingly accurate AI engines, highly customizable Learning Management Systems and diversified hosting and cloud solutions.

Although guided by different philosophies, the providers interviewed gave quite consistent responses: the majority stressed that their customers expected a satisfactory consulting service from them, with nearly 50% of customers contacting them solely on the basis of general problems or specific needs while lacking a precise idea of the type of solution they wished to adopt.

5 This is a classic requirement of companies with very complex HR management systems, such as SAP, that are difficult to drop. Companies in this situation often avail of the services of an e-learning company to implement integrated systems.
The second most important factor identified by the interviewees, and borne out by the results of the questionnaire administered to the users, is the clients’ need to verify that the chosen provider has the relevant competence and experience. Assurances in this regard are generally obtained by seeking references from other companies: indeed, a promotional strategy successfully adopted and recommended by some providers was to publish the success stories of their leading customers on their own websites.

A third group of factors reported by the providers concerned the product offerings themselves, particularly the need for efficient integration of different systems. This in turn was associated with the demand for hosting or cloud services, often chosen by customers as a means of solving their IT infrastructural issues through outsourcing. The technical features and quality of learning objects were a further criterion at this level, although some customers seek ready-made content with a short lead time for delivery while others require the development of ad hoc content. The proportions of these two categories of customer are subject to constant variation. According to some interviewees, the choice between customized and ready-to-use content is influenced by budget availability.

3. Platforms are not dead (yet...)

Beginning with the famous article by Tim O’Reilly (2005) in which the term “Web 2.0” was coined, the possibility of doing without e-learning platforms has been mooted and discussed on many occasions (Downes, 2005). However, this has not yet come to pass. On the contrary, we found that the providers analyzed in our study currently supply Learning Management Systems (acquired or self-developed) and have never stopped doing so over the past number of years. The interviews yielded very good news for those directly involved in the production of LMS: the LMS platform is often the first product offered to customers, along with the other services tied in with the platform itself. Essentially, all processes and products “take flesh” within the LMS, which, in a growing number of cases, is integrated with the company’s other information systems. Furthermore, practically all solutions available to customers require the prior purchase or consolidation of an LMS environment.

It is obvious that Web 2.0 has not provided a real alternative. Why? Quite simply, all the talk of “the death of platforms” was really a reflection of the fact that Web 2.0 initially offered greater ease-of-use than did LMS. Despite efforts on the part of the producers of Learning Management Systems to meet standards, the early versions were ridden with technical problems (Good, 2003) which have generally decreased over time (thanks to greater standardization of web protocols). Platforms have evolved, with developers drawing inspiration from the tools offered by Web 2.0, without losing their core features; most critically, they allow results to be tracked and user activity and progress to be monitored, a key function for any organization.

It is possible that in the future, interfacing and integration processes will make platforms more transparent to their users, creating second level environments that are more fully integrated with the other systems.
available on company intranets. In this regard, the key choice facing companies will be whether to consolidate a single e-HR, talent management and e-learning system or to integrate several specific different systems.

4. 2012, the year of cloud computing?

Analysis of the e-learning solutions offered by different providers enables us to identify the new trends that have emerged in recent years. Notably, there are five key tendencies on which the different developers have been focusing to varying degrees.

A trend that is common to practically all providers and comes into play at different levels, is so-called **cloud computing technology**, offered in a variety of formats by the different players in the e-learning market (Ercan, 2010). The interviews with providers and analysis of their product offerings indicate that this type of solution is becoming increasingly prominent on account of its interest for IT infrastructure and company training staff. An advantage of cloud solutions for e-learning is that **total** transparency may be provided to the learner, in fact users might not even notice the difference, given that the functioning of the learning system remains unvaried in cloud versions. The key benefits for the company on the other hand are that ICT staff are relieved of the requirement to solve highly specific and/or complex technical problems, while the work of training staff is facilitated due to the greater stability and effectiveness of the system now directly managed by the service provider. Therefore cloud computing offers technical and organizational advantages that are at their greatest when problems occur. For this reason, the evolution of the entire IT industry worldwide hinges on the future development of cloud technologies. As many developers already provide hosting solutions, adaptation of existing product ranges into cloud versions would seem to be a natural next step.

We may now outline the other key trends:

1) The first trend is the emergence of a particular form of cloud computing, known as **Saas** (Software as a service). A clear distinction is not always made between “cloud” and “Saas”, and in the specific case of e-learning the two terms are sometimes confused. The difference between the two types of solution is often subtle and is related to how systems are integrated and, especially, to the availability of on-demand software solutions enabling end users to acquire entire online training systems (including both LMS and contents) in the space of a few minutes without having to go through a sales agent. Such solutions offer all the advantages of cloud technology as well as flexibility in managing scalability and configuring LMSs. Although almost all providers supply cloud solutions, few offer Saas. Amongst those who do, Docebo is worthy of mention on account of their ongoing project to readapt their open source environment into a modular Saas.
2) The second trend consists of investment in talent management-oriented solutions with the aim of adding value to the e-learning services provided. As mentioned earlier, this pattern is more typical of providers with prior extensive experience in consulting and management who often combine e-HR and LMS applications to create all-in-one solutions. Providers in this category include Cornerstone, Saba, SumTotal, Upside learning and Edutech, all of whom are leaders in specific business sectors and/or geographical areas. Naturally the success of this type of service relies on effective data tracking and predictive algorithms, otherwise the end user risks making a heavy investment to integrate e-learning and e-HR systems without obtaining any real added value.

3) The third trend concerns mobile learning: in recent years, the use of portable devices for training has become increasingly common. This branch of e-learning seems to come with an inherent vision of the learner as central to the learning process (Geddes 2004). Its spread is linked to the widespread distribution of smartphones and tablets, which are the most used digital tools even amongst those with a low level of competence in digital technology. The adoption of mobile learning solutions appears to meet “out of office” and field training needs. The leading providers seem to be focusing on creating mobile versions of their existing platforms and in some cases, for example eXact Learning, on developing specifically designed mobile learning objects.

4) The fourth trend regards social learning, consisting of the enrichment of LMSs with the informal communication systems typical of Web 2.0 so as to recreate social network-type interaction but internally to the company. In some cases, the company’s partners are included with a view to fostering exchanges of information. The interviewees in our studies did not place great emphasis on this type of product. On the one hand, it is clear that this type of solution, whose benefits have yet to be proven, is still under development; on the other, probably for the same reason, customers seem to be more interested in other solutions and trends. Additionally, it is difficult to introduce the informal communication typical of social learning into a formal organization such as a company. We therefore hypothesize that this solution may be more successful in flexible and/or unstructured organizational systems.

By taking these four specific trends and graphically positioning the providers in relation to them according to their different areas of specialization and expertise, we obtain a snapshot of the current e-learning product offering (see Fig.2).

As the graph in Figure 2 illustrates, the leading providers are currently following the four trends in quite a diversified manner and it is not possible to make reliable predictions about future developments. On the one hand, it may be that all four trends will eventually be fully adopted by all providers. On the other, and
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This would confirm the tendency to date, it may be that each of the providers will continue to diversify into their own area of expertise, leading to the creation of specific market segments and niches.

Figure 2 – Graphic representation of providers’ product offerings

References


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