



# **CASE STUDY**

## **The Strategic Management of Organisational Knowledge: A CASE STUDY OF PRINCewaterhouseCOOPERS**

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**INDEX:**

<b>1. INTRODUCTION.</b>	3
<b>2. CASE STUDY: PRICEWATERHOUSECOOPERS.</b>	5
<b>2.1. History: The Merger Process.</b>	5
<b>2.2. Knowledge Management as a facilitator of the Merger Process.</b>	6
<b>2.3. Knowledge Management in Spain.</b>	10
<b>2.4. Evolution of Knowledge Management practice in PricewaterhouseCoopers.</b>	19
<b>3. QUESTIONS.</b>	24
<b>4. REFERENCES.</b>	25
<b>5. APPENDICES.</b>	27
<b>5.1. What is Knowledge Management?</b>	27
5.1.1. Preliminary Concepts (Data, Information and Knowledge).	29
5.1.2. Types of Knowledge.	30
5.1.3. Knowledge Management Concept.	33
5.1.4. Knowledge Categories in the company.	35
<b>5.2. The Knowledge Economy.</b>	37
<b>5.3. Knowledge Management Group Structure in PricewaterhouseCoopers Spain.</b>	40
<b>5.4. New Trends in Knowledge Management.</b>	41
5.4.1. New models in Internet to manage Talent and Knowledge.	41
5.4.2. E-learning: a new vision of business training.	45
5.4.3. Content and e-learning: The king without a crown.	48

## 1. INTRODUCTION.

*It had been a hard day. Rafael Navarro, President of PricewaterhouseCoopers in Spain, had just landed at Madrid Barajas Airport and was taking a taxi home, after a flight of more than nine hours from the United States. While he was looking distractedly out of the window, he was mentally going over the latest events. Around four years had gone by since the merger and the current situation greatly surpassed all initial expectations. He found himself at the head of a firm recognised by the market as the leader and which, in record time, had been able to overcome cultural and personal differences between the professionals coming from the two original firms. In the merger project, Knowledge Management, supported by senior management, had played an important role, at least in the first two years. In Spain he had been directly involved in its local development and had promoted the creation of a Knowledge Management Work Group, headed by the Chief Knowledge Officer, Nuria Márquez, who to date had developed numerous projects. Of course the project had undergone stages of globalisation and localisation and the international support for the KM project was diminishing. He had the clear perception that the group on a world level was breaking up as such, as the different work groups were taking on the management of the ongoing programmes. Moreover, the latest Spanish projects had been closely linked to e-business and to business development with customers, so that even Nuria Márquez was proposing a change of name for the department to the Online and Knowledge Management Group, as had occurred in Germany and in the United Kingdom,*

*Still thinking about it, he took out his mobile phone from his coat and dialled his secretary's number. Tomorrow without fail he had to call a meeting of the Executive Committee to make a decision in this respect...but which one? Should he follow the directives assigned by the firm worldwide and divide the department into the varied initiatives introduced in Spain within the different business areas? Should he keep the work group but under another name and with its own objectives linked to the national business strategy? He could not stop recalling that they had been international pioneers in the setting up of intranet, being the first European country with its own local*

*development, Knowledge Curve Spain. In addition, they had developed their own local projects whose future might now be in danger. Should he keep it? Or maybe they could find an intermediate solution?*

*The taxi driver's voice indicating that they had arrived at their destination caused him to stop pondering. He was tired and beginning to suffer from jet lag. Maybe it would be better to rest and conscientiously prepare the meeting for the following day. All things considered, a relaxed and alert mind finds solutions more easily.*

A large, light gray, stylized version of the 'eoi' logo is centered on the page. The letters are thick and rounded, with a modern, sans-serif feel. The 'e' has a horizontal bar, the 'o' is a simple oval, and the 'i' has a solid dot above it.

## 2. CASE STUDY: PRICEWATERHOUSECOOPERS.

### 2.1. History: The Merger Process.

- 1849 On December 24th the original accountancy practice was founded by Samuel Lowell Price in 5 Gresham Street, London.
- 1854 William Cooper established his practice in London, that seven years later would become Cooper Brothers.
- 1864 Edwin Waterhouse joined the new Price Waterhouse as a partner.
- 1898 Robert H. Montgomery, William M. Lybrand, Adam A. Ross Jr. and his brother T. Edward Ross created Lybrand, Ross Brothers and Montgomery.
- 1929 Price Waterhouse set up in Spain.
- 1957 Cooper Brothers & Co (UK), McDonald, Currie and Co (Canada) and Lybrand, Ross Bros. & Montgomery (US) merged to create Coopers & Lybrand.
- 1963 Hispano Suiza of Revisión was founded, an initiative of a group of Swiss professionals, whose aim was to provide audit and tax consultancy services to the Spanish subsidiaries of international clients. Later it will come to be called Revispana and Coopers & Lybrand, S.A.
- 1982 The firm Price Waterhouse World was created.
- 1990 Coopers & Lybrand merged with Deloitte Haskins & Sells in several countries throughout the world.
- September 1997 Coopers & Lybrand and Price Waterhouse announced their merger project.
- May 1998 The European Commission authorised the merger.
- July 1998 On July 1st a historical milestone was reached: the merger of the firms Coopers & Lybrand and Price Waterhouse into an unprecedented global giant: PricewaterhouseCoopers.

## **2.2. Knowledge Management as a facilitator of the Merger Process.**

In 1996, like other auditors and consultants among “the big six”, Coopers & Lybrand and Price Waterhouse offered a wide range of professional services, including tax, financial and management consultancy for companies in countries all over the world. Both companies complemented each other geographically speaking. While Price Waterhouse was relatively weak in Germany or Japan, Coopers & Lybrand had a well-established position in those countries. On the other hand, Coopers & Lybrand did not have much presence in Latin America and Russia, while Price Waterhouse was leader in those markets. The resultant company from the merger would therefore be able to offer a better geographical coverage to its customers by filling the existing gaps in the nets of both companies ... as long as they were able to integrate their systems appropriately.

Thus, with the merger of Pricewaterhouse and Coopers & Lybrand in 1997-1998 a giant new firm appears in the field of Legal Consultancy, Audit and Management Consultancy. Its aim is to become the leading Professional Services company in the world not just in the different countries in which it currently operates. Its objective is to offer Quality and Excellence to customers through innovative solutions and professional services and to this end intends to capitalise on the experience and knowledge accumulated in the two merged companies. This, which a priori might appear to be a major competitive advantage, was not easy to achieve in practice because the two organisations had very different cultures, practices and experiences. For this reason, the firm’s Management proposed undertaking a Knowledge Management programme as an element of integration and acceleration of the merger process of the two firms. At the time of announcing the merger, the two companies had a total of 150.000 employees spread over more than 150 countries, with different methodologies, objectives and cultures. It was therefore necessary to overcome this situation and create a new organisation with just one culture which could integrate and increase the most valuable capital of the new firm: the experience of its professionals. Furthermore, this culture would have to reinforce three essential values: leadership, excellence and teamwork.

Thus, the first step taken by the management was the creation of an international

Knowledge Management group. This group was to act as engine and co-ordinator of the territorial, divisional and sector initiatives. The objective of the international Knowledge Management project was that in two years, PwC would be a sole knowledge based organisation with a common and unique identity. This then, was the vision of the project, a vision that was inextricably tied to an organisational culture change project where it was necessary to work on three core axes:

1. The first axis was to bind the management –in territories, divisions and business areas- with the project, and work in a common standardised technological infrastructure. These were the two basic pillars.
2. Immediately after that, it was necessary to create the Knowledge Management processes in the different work groups, to spread a methodology of its own for the best practices of the firm in the different areas, to analyse the knowledge flows and to define tools –technological or not- to promote knowledge exchange.
3. Lastly, the third work axis focused on spreading these initiatives to the relationships with customers. On the one hand, it was a question of developing knowledge initiatives for business growth, like the extranets and on the other hand, of selling consultancy services linked to Knowledge Management.

In Spain's case, the President appointed a Chief Knowledge Officer, CKO to be in charge of the project. Among other responsibilities, she was responsible for the communication of the project to the rest of the organisation and, above all, for “selling” it to the rest of the management.

The first steps taken in Spain were the following:

- Internal communication of the project to the people and groups within the organisation in Spain who would have a role in the project, either as opinion leaders who had to show their support or as work groups linked to marketing, technology or human resources.

- Achieving a clear understanding of the firm’s global project and establishing a close link with the heads of the different international initiatives. In short, by aligning with the global project, you can take full advantage of its resources and synergies and offer support to the local development of the projects.
- Getting to know the firm’s six global Knowledge Management initiatives to understand how they can be used to the advantage of the local project:
  1. Creation of a common Intranet, called the *Knowledge Curve*.
  2. Development of *Knowledge Services*. A set of experiences focused on taking advantage of the synergies in the localisation of experts within the organisation and in the negotiation with information suppliers.
  3. Development of Virtual Communities or Sector Extranets (*Knowledge Direct*). This initiative has been specially developed in the USA and at times it has become an additional source of income.
  4. Creation of an internal structure and a Knowledge Management community (Through Leadership) to promote leadership and innovation.
  5. Development of a Knowledge Communications programme, both internal and external.
  6. Development of Knowledge Management Tools and Templates.
- Undertaking a diagnosis of the situation of the organisation in Spain from a Knowledge Management point of view, focusing more on the “information” aspects than the human resources aspects.
- Identification of the groups and people associated with information or knowledge management in both firms and creating a group with a coherent structure for the new organisation,<sup>1</sup> which had a common schedule for meetings and information sessions.

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<sup>1</sup> See Appendix 3



As a consequence of the previous work, that took about nine months to complete, the first Action Plan for Knowledge Management in PwC Spain was drawn up. Within that plan of action, different initiatives were established, according to the available resources.

- Establishment of an organisational structure, which operated on a corporate level, (for all the divisions) and within the divisions, with different people and competencies.
- Participation in the global initiatives and development of own project in some cases:
  - Knowledge Services, reorganisation of the negotiation policies and procedures with information suppliers and reorganisation of the “Centros de Documentación” (now called Knowledge Centres).
  - Development of the local site Knowledge Curve España: information architecture, integration and consolidation of data banks, definition of functions.
  - Participation in the Knowledge Management Global Community with articles and taking part in forums and work groups.

In addition, after one year’s work, Knowledge Management emerged as a business solution for PwC customers. This meant that the internal Knowledge Management work group became linked to the consultants, participating in their business plans in the following areas:

- Development of a strategy and a methodology for the implementation of Knowledge Management projects. Drawing from the American firm’s methodology, a specific one was developed for Spain with an approach that was more tied to human resources and strategy.
- Participation in before-sales to Knowledge Management projects customers through the presentation of internal experiences.

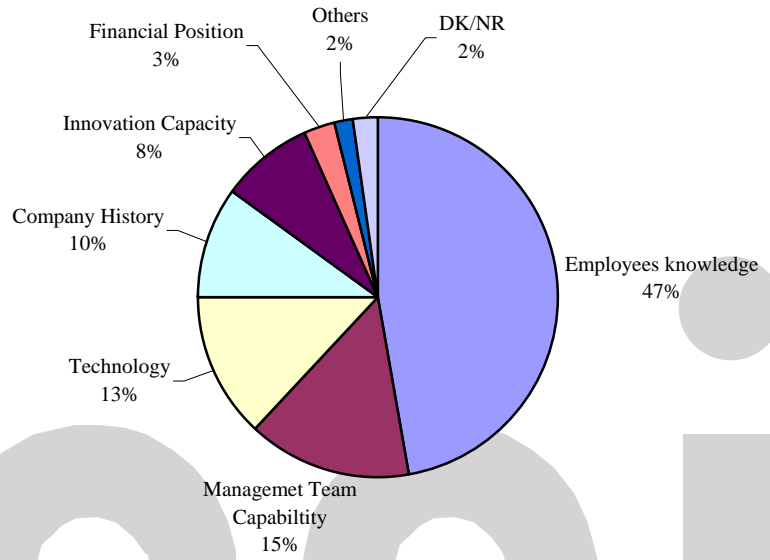
- Linking to Spanish initiatives, related to Knowledge Management, that allow working together and the establishing of alliances with universities and other organisations (Club Intellect-Euroforum).
- Marketing Plan that included the active participation in Knowledge Management events and presence in the media with articles and viewpoints.

As a consequence of this programme, PwC became an integrated company based on knowledge and prepared for change. As an example, the Intranet Knowledge Curve is used by more than 80% of the employees. In addition, many proposals were presented to clients based on Knowledge Management and the company had an important presence in forums and events related to this matter.

### **2.3. Knowledge Management in Spain.**

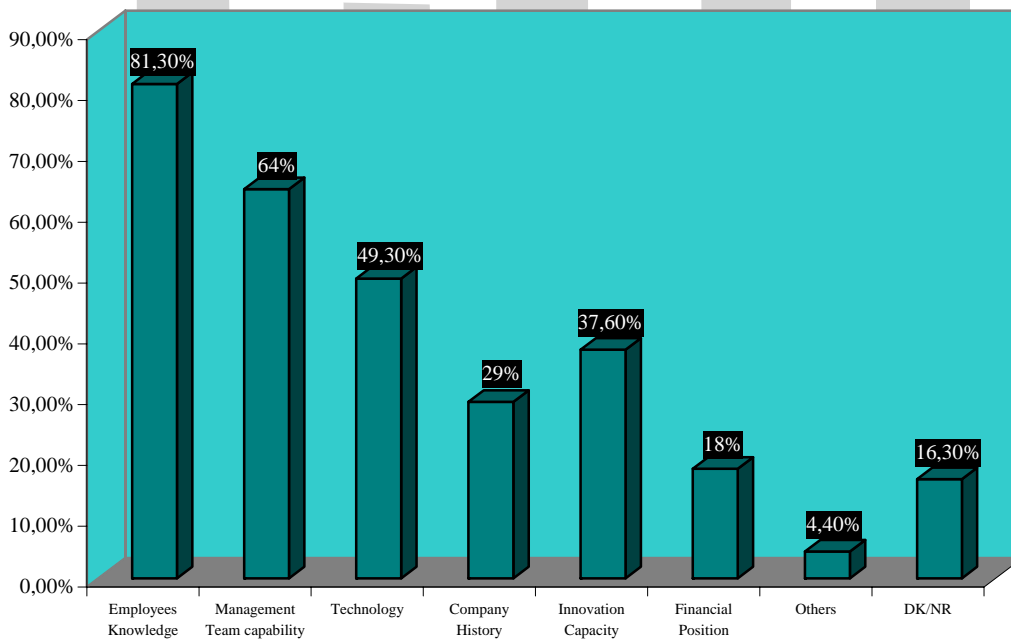
Knowledge Management is acquiring more and importance for Spanish companies. In fact, 47.3% of Spanish companies believe that nowadays their competitive advantage is primarily based on their workers knowledge as opposed to other factors like technology or financial capacity. And if they are asked to mention three factors of competitiveness, then knowledge appears in 81% of the replies.

**Factors which companies base their competitive advantage on: First factor mentioned**



Source: EOI, Knowledge Management Survey, 2001

**Factors which companies base their competitive advantage on:  
(First three mentioned)**



Source: EOI, Knowledge Management Survey, 2001

It is also relevant to observe how 78% of those companies which consider knowledge as the main source of competitive advantage document their internal procedures, but only 32% of them have systems which can manage this knowledge (although this percentage rises to 69% if they are asked if they plan to implement a system in the next three years).

**Characteristics of the companies that consider their employees knowledge as their principal competitive advantage**

	YES	NO
<i>Do you have a Human Resources department?</i>	48.6%	51.4%
<i>Do you have documented internal procedures?</i>	78.2%	21.8%
<i>Do you consider electronic commerce as a way of growth?</i>	50.4%	49.6%
<i>Do you carry out transactions via Internet?</i>	74.6%	25.4%
<i>Have you introduced a Knowledge Management System?</i>	32.9%	67.1%
<i>Do you plan to introduce it in the next three years?</i>	42.6%	30%

Source: EOI, Knowledge Management Survey, 2001

The position changes, however, when they try to put into practice and utilise this “competitive advantage”. Thus, according to the survey undertaken by the EOI in the year 2001, at the moment only 34% of the Spanish companies have a person or unit dedicated to Knowledge Management available, although this percentage increases to 47% for those companies with more than a 100 employees, and to 42% when turnover exceeds 2,000 million euros. Therefore, the greater the number of employees or the higher the turnover, the greater is the interest shown by companies in this matter. As regards business sectors, the Financial sector demonstrates a greater concern for this issue, as opposed to the Agri-foodstuffs sector which shows least implication.

**Companies that have introduced a Knowledge Management System (percentages)**

	YES	NO	DK/NR
<b><i>NATIONAL TOTAL</i></b>	<b>27.7%</b>	<b>68.7%</b>	<b>3.7%</b>
<b><i>SECTORS</i></b>			
<i>Consultancy</i>	32.4%	64.7%	2.9%
<i>Public Services</i>	32.6%	65.2%	2.2%
<i>Tourism</i>	32%	68%	-
<i>Agri-foodstuffs Industry</i>	17%	78.7%	4.3%
<i>Chemical Industry</i>	27.7%	66.2%	6.2%
<i>Financial</i>	38.1%	57.1%	4.8%
<i>Telecommunications</i>	46.7%	53.3%	-
<b><i>NUMBER OF EMPLOYEES</i></b>			
<i>10-25</i>	18.6%	76.35	5.1%
<i>26-50</i>	21.7%	76.5%	1.7%
<i>51-100</i>	33.3%	60.9%	5.8%
<i>+100</i>	42.1%	54.4%	3.5%
<b><i>TURNOVER</i></b>			
<i>-3 million euros</i>	17.3%	77.3%	-
<i>3-6 million euros</i>	27.1%	72.9%	-
<i>6-12 million euros</i>	26.3%	71.1%	2.6%
<i>+ 12 million euros</i>	36.4%	60.6%	3%

Source: EOI, Knowledge Management Survey, 2001

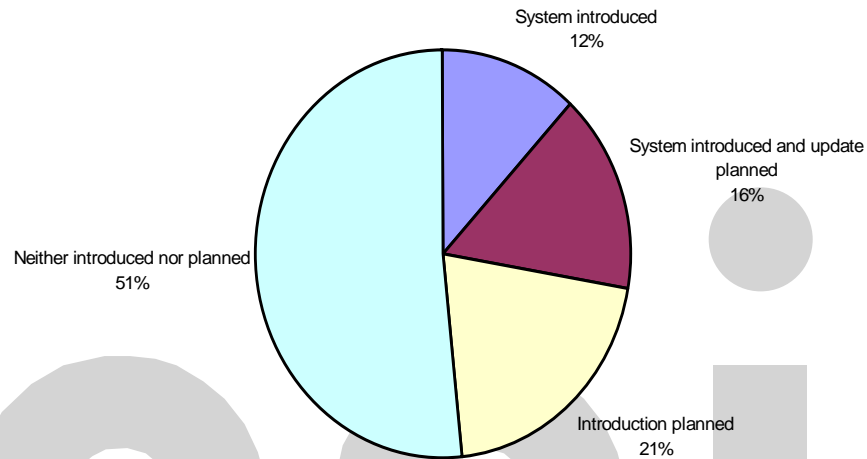
In reference to the profile of those companies which have Knowledge Management units, only 57.8% of them have a Human Resources department (which is rather surprising and shows us that there is a trend for the Knowledge Management department to absorb human resources management within the company) 84.3% have documented their internal procedures and in 73.5% of the cases electronic transactions are carried out via Internet (which means that they are companies with a vocation for e-business).

If we study it more closely, trying to see if the company has a Knowledge Management System, we observe how coherent the results are with the previous ones. Thus, only 27.7% of the companies have introduced such systems (which means 80% of the companies which had a person in charge of Knowledge Management). The companies belonging to the financial and telecommunications sector present the highest implementation percentage. Furthermore, larger sized companies are also the ones that have introduced these systems to a greater extent.

It is significant that of the 64.7% that have not introduced a system, 30% expressed their intention to introduce one in the next three years, which means that around 50% of the companies will possess some tool of this nature. Moreover, 56% of those which already have the system in place, are ready to reorganise/update it in the same period.

**Figure 1**

**Presence of Knowledge Management Systems in Spanish companies (percentages)**



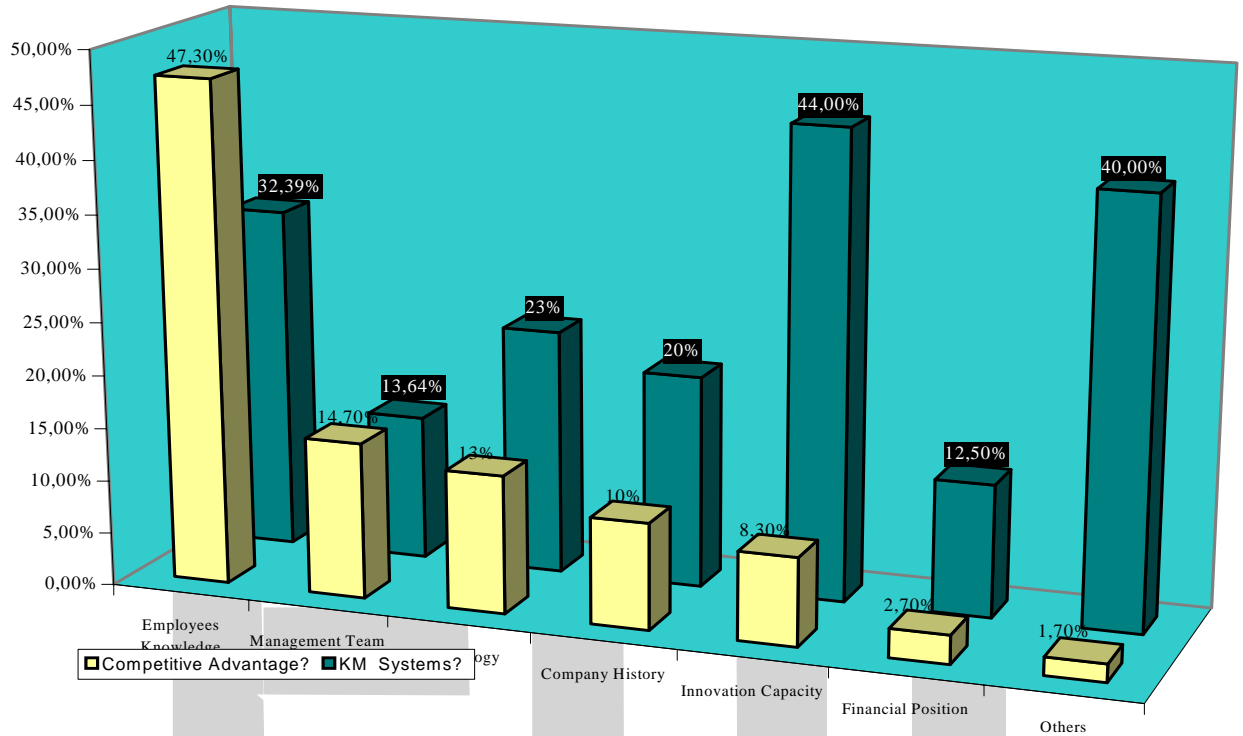
Source: EOI, Knowledge Management Survey, 2001

Another interesting statistic is that 86.7% of the companies which have a Knowledge Management System, and 88.4% of those which plan to introduce one, have already documented their internal procedures, which provides evidence of this being a first step in the introduction of these systems. These percentages increase to 95.2% and 90.2% for those companies that have their customers' information stored in Databases. Finally, 100% of the companies that have introduced a Knowledge Management System, and 94% of those which plan to introduce it in the next three years have their key competencies detected, an essential prerequisite for setting up these systems.

Finally, having asked all the companies about their competitive advantages, it is noteworthy that 32% of the companies that name Knowledge as a competitive advantage have introduced a system to Manage it, this percentage being superior to that found in companies that cite other competitive advantages. It is also significant that 44% of the companies that consider innovation capacity as their competitive advantage have introduced these systems.

**Figure 2**

**Competitive Advantage and Knowledge Management Systems (relationship)**



Source: EOI, Knowledge Management Survey, 2001

On the other hand, we also have to take into account that when companies talk about Knowledge Management Systems and Tools, they are referring to a wide range of solutions. In short, the tools introduced could be grouped together in four sections:

- **Practical Communities:** these tools aim to provide forums where those members of the organisation related to or interested in a particular area of interest can share knowledge (what it is called the “Community”). Thus, in those organisations where the organisation is matrix instead of functional, there will be people with similar knowledge or related knowledge in different areas of the company, making it difficult both to share information and for some areas to take advantage of the experience and knowledge of other areas.



- Decision making systems: these systems aim to help those people who are at an executive level within the organisation, providing them with information about similar past experiences (inside or outside the organisation) that might give them enough help to ensure that the decision made is the right one.
- Competencies Development: this epigraph includes the tools that allow the creation of individual knowledge. They should not be seen as being the equivalent of traditional training, but rather they go further, given that they allow the whole organisation to have access to the experts` knowledge of every subject (or “competencies”). An example of what we are talking about would be learning based on the case study method.
- Knowledge Architecture: finally, there are a series of tools that join together communication and information (and determine therefore, how knowledge is stored, shared and distributed) within the organisation. All of this is called Knowledge Architecture, and it embraces elements such as Databases Management Systems, Intranets, etc.

On the other hand, we must firstly point out the diversity of the sectors in which such solutions are being carried out. Thus, they range, for example, from large utilities to Hospitals, NGO’s, Publicly Owned Companies, Government Bodies, Finance Companies, Consultancies, Service Companies, etc. This gives us an idea of the possibilities that these systems can offer. Besides, we see how different approaches, all of which are valid, are adopted (from “advanced” document management to new business units creation). It is only a matter of uniting the possibilities that these tools offer with the business needs of each organisation.

Another factor to take into account when referring to Knowledge Management is the barriers that arise when you proceed to the implementation stage. These barriers are of many different types: ranging from purely economic to technological to human.

- Economic barriers: we can highlight the following:
  - High cost of the Knowledge Management projects, because they imply the creation of units or departments, hiring of external consultants in many cases, technological tools purchase, etc.
  - Normally, this is a philosophy that requires a lot of time to be implemented.
  - Together with the above, many companies look for immediate profits from any investment, whereas in this case the return on capital invested is often only appreciated in the medium or long term.
  - In many cases Knowledge Management implementation implies a “re-engineering” of internal processes, with the associated cost that any company reorganisation entails.
- Technological barriers:
  - Setting up extremely complex systems, which make their utilisation enormously difficult.
  - Many companies still see Knowledge Management as a merely technological solution, which results in their designing systems of little “real” practical use.
  - Absence of the technological infrastructure needed for the implementation of the systems.
  - Information systems dispersed in different technological platforms (need to integrate them).
  - Excess of access levels to information.
- Human barriers: finally, we group together the barriers related to people, which are precisely the most difficult ones to overcome:
  - Senior Management has still not discovered all the possibilities of Knowledge Management, which makes their support weak or non-existent

and means that there is no well-defined strategy.

- Lack of time for the people to use the implemented Knowledge Management Systems.
- Insufficient internal communication of the implemented Knowledge Management System, which contributes to its low utilisation.
- People's fear to share what they know, which results in a low utilisation of the systems. On many occasions, this is reinforced by the organisational culture itself, which promotes these information "silos".
- In other cases, this attitude appears due to the low commitment shown by employees towards the organisation.
- And, above all, the change of mentality that the utilisation of these systems requires.

#### **2.4. Evolution of Knowledge Management practice in PricewaterhouseCoopers.**

With the experience of Intranet, extranets and web pages, PwC went ahead with its Knowledge Management model, establishing a Knowledge Content Model adapted to the Knowledge Cycle. Thus, PwC developed a model that originates from the strategy of the organisation, joining four elements together: Education and Communication Processes, People, Technology and Content.

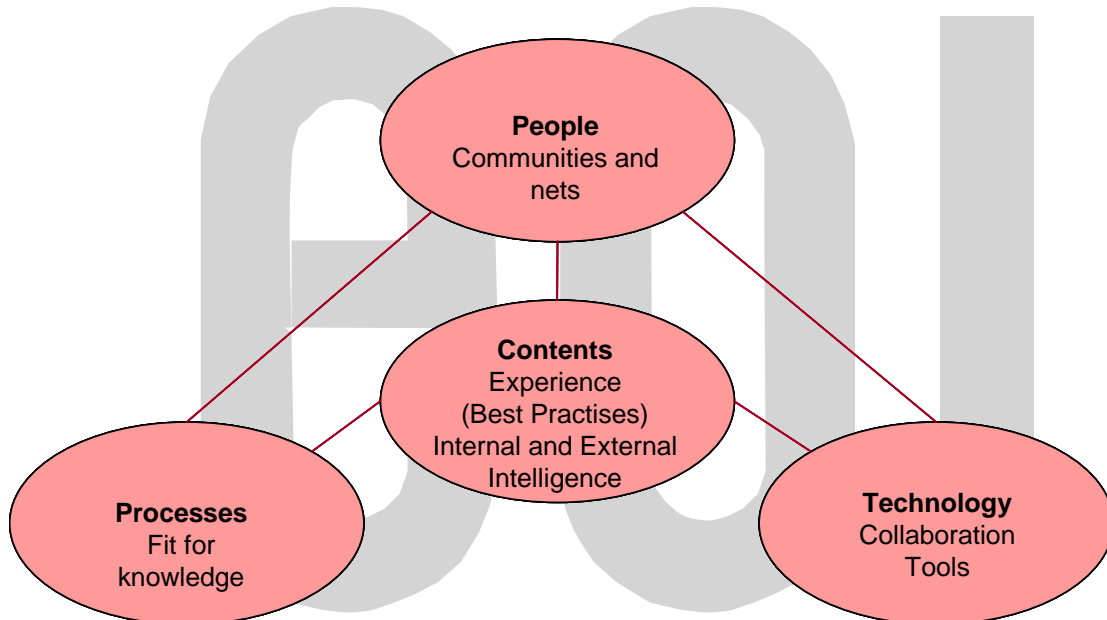
Dealing with people, the model aims to develop the skills of the people who work in the project, defining the roles and responsibilities that are necessary to create knowledge.

With regard to content, the aim was to structure the explicit knowledge already existent and to put it at the disposal of the organisation, placing it within the context of everyday work.

With reference to technology, they tried to implement those technologies that facilitate the collaboration, communication and co-ordination between the different teams existing in the company.

Finally, with regard to the processes, the aim was to design them from the knowledge point of view, integrating them into work routines.

This model was easily exportable to clients. Thus, starting from this model, it was possible to make an analysis of the current position of the organisation as regards its intellectual capital, to define its Knowledge Management strategy, and to design and implement the Knowledge Management model.



To conclude, it could be said that because of the novelty that Knowledge Management supposed as a management approach and the very little previous practical experience in Spain, PwC sought links to different formal research initiatives already in progress. Thus, they joined the Club Intellect (Euroforum) and later, the Intellectus Knowledge Forum of the Centre for Research into the Knowledge Society.

Turning to the project itself, in the year 2000, the global project started to fade and there

was a change of personnel within the international corporate management that included the international leaders of the internal Knowledge Management project. This had a great repercussion on the development of the international firm's initiatives. It also coincided with the announcement of an organisational restructuring that implied separating the consultancy business from Audit, due to legal restrictions.

In June 2000 a new diagnosis of the situation of the project was presented to the president in Spain. All things considered, there had been a great advance in the development of technological platforms and as far as information and explicit knowledge were concerned, but with regards to people's commitment, the panorama was not so rosy. Both informal and formal information channels continued to be used; people did not feel attached enough to share their information with other groups and there was a strong mini-group feeling in some business areas.

As a result of these reflections and the international situation mentioned above, the project in Spain experienced a slant towards "localisation" and two new initiatives started:

- A work team was created with people from Human Resources from the different divisions, and with people from the innovation, training and Knowledge Management groups. The aim was to agree common objectives for every area, to carry out a new diagnosis of people's attitudes and organisational values, and to propose a Plan of Action. In February 2001 the project was presented as a whole as: "Talent Management ". It proposed an improvement plan for the values and commitment of the people and the organisation. In the end this plan, which coincided in time with the restructuring process of the firm, was not approved. In any case, some specific actions have been put into practice in different parts of the organisation.
- Knowledge Management was linked to organisational learning from a practical point of view and associated to specific actions:
  - Information training plan, aiming to increase relations with the training

heads of the different fields and proposing specific courses and programmes focused on the different groups and the new joiners to the firm.

- Digital literacy. Development of “@prendeWeb” (“@learningWeb”), learning by doing through a site with training itineraries, and self-evaluation tests, both in Internet and Intranet.
- Development of “Who’s who”, a collaboration tool that is designed to put whoever asks the questions in contact with the people within the organisation who have the answers.
- Collaboration on an initiative, aimed at customers, to provide e-Human Resources and e-learning, “www.elearning.es” services.

At the same time as these initiatives were becoming consolidated, e-business was having more and more importance within the Knowledge Management department both in the development of its own projects as well as linked content management. It had begun with the development of the Intranet, but had continued with the development of corporate sites, Internet pages and several customer extranets.

In the year 2002, the field is unified and needs its own Business Plan, which groups together the firm’s priorities and aligns them with the business strategy. In total it manages 9 different initiatives (in Internet-Intranet-Extranets) and more than 1500 content pages.

Furthermore they are again thinking of improving internal processes through the development of a methodology and a database for web content management and to define new tools. There is a lot of collaboration with the technology field and it is quite efficient.

On the other hand, in the international web, we are beginning to see important changes on the horizon, which affect the Knowledge Management project. Among the changes it is particularly worth highlighting the following:

1. On the one hand there are new teams working on managing content and a certain leadership is beginning to emerge in the “Content Strategy Group”, made up of people who were previously leading Knowledge Management initiatives.
2. In some European countries, such as the UK and Germany, Knowledge Management has been included in e-business groups, which have come to be called On-line Management Groups.
3. There is a new global firm initiative, the PwC Portal, which aims to lump together, from a common platform, all the firm’s Intranet, extranet and internet initiatives in their different contexts (territories, lines of business). It is a complex project that needs the support and leadership of the organisation’s management.



### 3. QUESTIONS.

1. In your opinion what decision should the PwC Management in Spain make: keep the Knowledge Management department as it is now, divide it into initiatives within the different business areas or consolidate e-business leadership in a single department – tied to content management- and in line with other countries (Online & Knowledge Management Group)?
2. Based on the previous decision, how would you focus the activities of this department in Spain?
3. What new initiatives would you propose? Why? Does organisational learning have to be strengthened? How?
4. Taking into account the boom in the new information technologies and specifically the Business models on the Web (called E-Business), how do you think this could have repercussions on the direction this department takes in the future?



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## 5. APPENDICES.

### 5.1. What is Knowledge Management?<sup>2</sup>

Many of us, at some point in our lives, have taken a trip. And, it's very likely, especially if it was for pleasure, that we would have previously prepared it, we would have got information about the place that we are going to visit, we would have bought books, have looked at photos... However, no matter how exhaustive the search and gathering of information might be, if anyone were to ask us to describe in detail the place to be visited, we could not do it (Or, at least, not in detail). But what about when we come back? Then we could talk in full detail about the place, what it's like, the atmosphere...we could even express an opinion about the truth of the information that we had previously consulted. What are the differences between before and after? Obviously, being there, living the situation, in short the lived experience is what has transformed the INFORMATION that we had into KNOWLEDGE.

Let's see another example. Traditionally, physical assets were the base of the success and value of a company in the industrial era. Nevertheless, if we look at Microsoft a company of unquestionable success and leadership in the world today, what are their physical assets? What net wealth does its published accounts balance sheet reflect? It will probably be inferior to that of many big companies, which are currently going through difficulties (Like many of our own industries, for instance). What is happening, then? It is simply that these types of companies are built on what they know to how to do, not on what they produce. Their assets are made up of patents, products and organisational capacities. And their productivity growth is based on continuous innovation and applied knowledge. Therefore, we face a new competitive environment in which what a company knows how to do well is more important than how they manage their physical resources. The appropriate use of the intangible assets will allow a company with physical and tangible resources similar to others to become a successful

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<sup>2</sup> Extracted from Garcia-Tapia Arregui, "Knowledge Management and business. Focus on the Spanish experience in the real world", EOI, 2002

company. The core of its competitive advantage will be how it manages both the individual and collective learning of every worker.

However, for knowledge to become a source of competitive advantage, its mere existence is not enough. It also has to be captured, created, distributed, stored, shared and used by the members of the organisation in a suitable way. In other words, **knowledge must be transformed into business value**, into a source of wealth, through appropriate handling. This is what we call Knowledge Management.

These two examples could have been useful to understand the fundamental importance that knowledge has as a key strategic advantage for organisations in the present environment. Nevertheless, why should we fool ourselves? Knowledge is inherent to humans. And human beings have always been basic and fundamental components of organisations. Why are we now talking about Knowledge Management? Didn't anybody notice it before? What phenomenon has caused the appearance of this new management model? The answer lies in the introduction and generalisation of information technologies, and more specifically Internet. These technologies are the ones that have brought about the birth of a new era based on knowledge, because they have given power to the intellectual capital of organisations, to the point of converting it into the principal competitive advantage.

However, when talking about Knowledge Management, we first have to explain a series of concepts, which are the ones that we are going to use throughout this study. They must be clear from the beginning, in order to use a univocal language. It is not so much about making a complex semantic analysis of similar terms (data, information, knowledge) but rather fixing a unique meaning for every one of the terms that we will use in this study<sup>3</sup>.

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<sup>3</sup> As Luis Cremades rightly states, "If a computer expert says "Knowledge Management" he will be talking about data bases and information flows. If a Human Resources head says it he will be talking about competencies management, assessment, training and career plans. If it is a quality technician, he will be talking about standardisation and improvement of processes (especially if he refers to intangibles, services, know-how). An expert in innovation will refer to the registering and use of patents, and finally, a

### 5.1.1. Preliminary Concepts (Data, Information and Knowledge).

Nowadays, there are many organisations with powerful information systems that process a high volume of data. Could we say that these organisations manage their knowledge? The answer is negative, because on many occasions the information that these systems provide will not contribute to resolving our problems. It will be necessary to interpret and transmit that information, to put it in context and to use it in an appropriate way. Then we will be talking about knowledge.

Let's look at an easy example that will help us to clarify these concepts: if we read a document saying "*15 Constitution Avenue*", this is **Data**. But, if the content of the document is "*Juan Rovira lives in 15 Constitution Avenue*", this is **Information**. Let's suppose that at some time we have been to 15 Constitution Avenue, now we would know how to get there and we would be able to tell other people how to get there too. In this case, we will be facing **Knowledge**: "*I know how to get to Juan Rovira's house, that is in 15 Constitution Avenue*".

Thus, and following this example, we could define Data as *a quantitative description of events and human attributes*, Information as *a group of data organised and presented in context* and Knowledge as *the combination of used information placed in a context, together with its interpretation*<sup>4</sup>. This therefore would be the information, which has value for the organisation.

So, we must not confuse Knowledge with Intelligence. The latter is what one needs to create knowledge<sup>5</sup>.

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general manager will talk about organisations open to learning and will quote Peter Senge". Cremades, Luis, in Lista de Distribución GEST-CON (<http://www.gest-con.com>), February 2000

<sup>4</sup> Terol, Rafael, "El Valor del Conocimiento" ("Knowledge Value"), *Expansión: Negocios en la Era Digital*, November, 25th 1999, 2

<sup>5</sup> Other definitions of Knowledge could be those that define it as "*Justified true beliefs and empirically acquired techniques*" (Nonaka, Ikujiro, Reinmoeller, Patrick y Senoo, Dai, "El "ART" del conocimiento: sistemas para rentabilizar el conocimiento del mercado", ("The "ART" of knowledge: systems to achieve

Knowledge, thus defined, would have the following qualities<sup>6</sup>:

- ✓ Volatility, given the fact that knowledge changes according to the holders of this knowledge.
- ✓ Learning develops it.
- ✓ It is intangible.
- ✓ It transforms into action when there is a motivation to use it.
- ✓ It transfers without getting lost. This characteristic is fundamental for the understanding of Knowledge Management, as we will see later.

### 5.1.2. Types of Knowledge.

Knowledge itself can be differentiated into two types: **explicit** knowledge, referring to that knowledge which can be transmitted through formal language, in a systematic way as it can be expressed through words and numbers, and **tacit** knowledge, which is made up of subjective perception and emotions. The latter resides in people's minds and it is characterised by the fact that it can't be instrumentalised, which makes it difficult to codify, formalise, and transmit, as it is rooted in individual experience. It is the flow of knowledge, specifically its conversion from tacit to explicit, which makes it possible to talk about the existence of Knowledge Management. And the role of the company (or any other organisation) is to provide the adequate context for the individual to generate Knowledge, so it remains integrated and distributed, to be transformed into organisational knowledge.

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a return on market knowledge”) (Harvard Deusto Business Review, September-October 99, 6-21), "Conjunto de información desarrollado en el contexto de una experiencia y transformado en una experiencia para la acción" (Webster Dictionary in Fernández, Javier, "El Management del nuevo milenio", Capital Humano, nº 127, Noviembre 1999, 88-89) or "Capacidad de resolver un determinado conjunto de problemas con una efectividad determinada" Muñoz Seca, Beatriz y Riverola, Josep, Gestión del Conocimiento, Barcelona: Biblioteca IESE de Gestión de Empresas, 1997, 18).

<sup>6</sup> Muñoz Seca, Beatriz y Riverola, Josep, op.cit., 19

How is individual knowledge transformed into organisational knowledge? According to Professor Ikujiro Nonaka, the interaction between explicit knowledge and tacit knowledge generates the knowledge creation process. It can be achieved through four different and complementary steps, the SECI model (Socialization-Externalization-Combination-Internalization)<sup>7</sup>:

- ✓ **Socialization:** consists in the conversion of tacit knowledge into tacit. It implies the interaction of every individual's tacit knowledge. The key to achieve this socialization is sharing experiences, because that helps us to understand the way of thinking and feeling of others.
- ✓ **Externalization:** in this case it is a question of converting tacit knowledge into explicit, which implies translating implicit knowledge into comprehensible forms that can be understood by others. This process is supported by dialogue and is reinforced by the use of analogies and metaphors.
- ✓ **Combination:** involves the conversion of explicit knowledge into explicit. Given that explicit knowledge can, *per se*, be communicated to others, the added value to this process is in the transformation of this explicit knowledge into more complex sets of explicit knowledge, in an orderly and systematised way.
- ✓ **Internalization:** is the conversion of newly created explicit knowledge into tacit, through its interiorization. The main mechanism used is practical training through simulations and experiments that allow us to practice and consolidate that knowledge.

According to Nonaka, this model describes a dynamic process, so that when it takes place inside an organisation, the individuals that are part of it go beyond their own knowledge, thus favouring active knowledge creation within the organisation.

Finally, it is important to point out that one of the principal contributions that Nonaka makes with these concepts is to designate implicit knowledge as the key to competitive

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<sup>7</sup> Nonaka, Ikujiro and Takeuchi, Hirotaka, *The Knowledge Creating Company*, New York: Oxford University Press, 1995

advantage for companies. Explicit knowledge is public, which means that the competition can have access to it. It cannot, therefore be considered as the key to gaining competitive advantage. To obtain such advantage, it is necessary to find the tacit knowledge that resides in the organisation and exploit/transform it effectively.

Another classification of Knowledge is put forward by Beatriz Muñoz-Seca<sup>8</sup>. She develops the studies of J.A. Pérez López, which consider knowledge in relation to two dimensions: its origin and its end. With reference to its end, knowledge can be considered as either operative or reflexive. **Operative knowledge** is orientated towards solving problems (for example, how to manage a radio station), while **reflexive knowledge** is related to the way of thinking or acting (for example, knowing how to communicate). The importance of this classification lies in the fact that organisations tend to focus on the first, because it can be more easily detected, captured, structured, and distributed.

As regards the origin of knowledge, it can be classified into perceptive, abstract and experimental knowledge.

**Perceptive knowledge** is the result of the accumulation of experiences or cases. It is, by nature, disorganised and unstructured, but is the one used on most occasions to solve analogous or similar situations. It is what we commonly denominate as "casuist". So that means that if the organisation is capable of storing and structuring perceptive knowledge, it can gain great advantage.

**Abstract knowledge**, on the other hand, is made up of rules because of the certainty about the effects that specific actions produce. It is what we habitually call "logic". Here, the key will be in transforming our perceptive knowledge into abstract knowledge by means of the systematization of the former.

Finally, **experimental knowledge** is the result of the application of abstract knowledge to reality. In other words, it is the "experience". From the experienced events

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<sup>8</sup> Muñoz Seca, Beatriz y Riverola, Josep, op. cit., 18-21



(perceptive knowledge) it is possible to deduce models (abstract knowledge), but when we apply them, we will find gaps, unexpected results, interpretations, etc. It is this “reality” that we call experimental knowledge. This type of knowledge is the one that closes the cycle, given that once experienced, it is transformed into perceptive knowledge (and this, in turn, into abstract knowledge).

The importance of these dimensions is not limited just to theoretical studies. As we will see later, when we consider the structuring of knowledge into a System that enables it to be available to third parties. It will be shown how that structuring of knowledge is based on these dimensions (or in another words, the functional design of a Knowledge Management Tool will be derived directly from this classification of knowledge).

### 5.1.3. Knowledge Management Concept.

Up to now we have been talking about Knowledge, Intellectual Capital and their different types. Nevertheless, and despite having made reference to the concept, we still have not defined what we understand by Knowledge Management. And such an “omission” is not the fruit of coincidence. As said previously, before talking about Knowledge Management it was necessary to define knowledge. That is the reason why we have left this definition for the end, so it can be understood in the context we are dealing with. It is also because in any book, article or essay that we read or at any conference or presentation that we attend regarding this subject, we will probably be given a complete, logical and elaborate definition of Knowledge Management...and it will almost certainly be correct. Besides, there are dozens of different approaches related to Knowledge Management, from those which embrace document management to competencies management, commercial information, information systems management, organisational learning or implementation of corporate communication systems (Intranets). We wanted to work from a more practical point of view, and not to get bogged down in semantic and taxonomic discussions about the meaning of the term. In our opinion, Knowledge Management is a philosophy, a business culture, and in any

organisation where any of the mentioned processes are being implemented, we can say that “knowledge is being managed”. However, for a company to work under a Knowledge Management culture, it will be necessary to work on every one of the parts of the so-called Knowledge Cycle (which will be developed later, when we talk about the functions of the department), avoiding the risk of taking one part of the cycle as the total, ignoring the rest.<sup>9</sup>

Nevertheless, as we understand that in a study of this nature you need to have a definition of Knowledge Management, we are going to offer some of the most interesting definitions that we can find in the still not very abundant literature.

*“Knowledge Management is the new discipline to empower people, teams and whole organisations in the creation, sharing and application of knowledge in a collective and systematic way in order to improve the attainment of business objectives.”<sup>10</sup>*

*"Knowledge Management is a group of processes focused on the development and application of a company's knowledge to generate intellectual assets that can be exploited and can generate value when meeting our company's aims".<sup>11</sup>*

*"Knowledge Management can be defined as a systematic process of finding, selecting, organising and disseminating information, in a way that provides the company professionals the necessary knowledge to work more effectively".<sup>12</sup>*

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<sup>9</sup> As María Barceló argues in “Hacia una economía del Conocimiento”, (“Towards a Knowledge economy”) p. 40, Knowledge Management is a strategic capacity of the company, because it contributes to the creation of a sustainable competitive advantage, being, therefore, a first order management instrument, that contributes to the company's success. Later, she argues that it should be incorporated into the company philosophy to identify, capture, systematize and apply the information and experience of the company to increase its profitability.

<sup>10</sup> Wallace, William, “La Gestión del Conocimiento (Knowledge Management Today)”, Seville, December 1999

<sup>11</sup> Fernández, Javier, "El Management del nuevo milenio"("Management in the new millenium"), Capital Humano, nº 127, November 1999, 88-89

<sup>12</sup> Steib, Nicolas, "Gestión del Conocimiento: algo más que información"("Knowledge Management: not

*"Knowledge Management consists in reutilizing processes and solutions that have been acquired through experience, information, knowledge or company staff skills or searching in external sources".<sup>13</sup>*

*"Knowledge Management is the function that plans, co-ordinates and controls the flows of knowledge produced in a company in relation to its activities and its environment, with the aim of creating essential competencies (Eduardo Bueno)."<sup>14</sup>*

*"Knowledge Management is the process of continuously managing knowledge of every type to satisfy present and future needs, to identify and exploit both existing and acquired knowledge resources and to develop new opportunities"<sup>15</sup>.*

*"Knowledge Management is the art of creating value from an organisation's intangible assets".<sup>16</sup>*

*"Knowledge Management is the need to accelerate the flow of information that has value from the individuals to the organisation and back again to the individuals, in a way that they can use it to create value for their customers"<sup>17</sup>.*

#### 5.1.4. Knowledge Categories in the company.

The majority of authors in this field argue that, knowledge is structured in three categories: Relational Capital, Structural Capital and Intellectual Capital.

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just information"), In Training & Development Digest, May 1999, 58-59

<sup>13</sup> Aguilá, José, "La Gestión del Conocimiento"(Knowledge Management"), Expansión, November 11th 1999

<sup>14</sup> García Morales, Víctor, Rodríguez Jericó, Pilar and Salmador Sánchez, M<sup>a</sup> Paz, "Investigaciones sobre Gestión del Conocimiento, Aprendizaje y Capital Intelectual" ("Research into Knowledge Management, Learning and Intellectual Capital"), Club Intelect, Boletín de Información, July 1999, 14-22

<sup>15</sup> Paul Quintas

<sup>16</sup> Karl Sveiby

<sup>17</sup> Arthur Andersen

**Relational Capital** is the value generated by the exchange of information with external agents, both customers and suppliers.

On the other hand, **Structural Capital** is the knowledge value created in the organisation, which is translated into the capacity of the organisation to be productive. It is determined by corporate culture, codes and processes, internal structure and daily operations, patents and trademarks, technological developments, etc. According to Edvinsson y Malone<sup>18</sup>, this Capital, itself, can be divided into Organisational Capital (investments in systems and tools that facilitate knowledge dissemination both within and outside the organisation), Innovation Capital (renovation capacity and innovation results in the form of intellectual property) and Process Capital (working processes and techniques to increase efficiency).

Lastly, **Intellectual Capital** can be defined as the knowledge value created by the people who make up the organisation, together with their skills and abilities to carry out their work. It would include learning capacity, competencies, education, experience... On occasion, Intellectual Capital has been called **Human Capital**, leaving the term Intellectual Capital for the sum of Relational, Structural and Human Capital. In Edvinsson and Malone's<sup>19</sup> opinion, relational capital and structural capital are owned by the company, whereas a company can never be the owner of human capital. Therefore, the capital that you should try to manage is the former. In our opinion, this statement is questionable, because even if it is true that the company can never be the owner of the knowledge that their employees possess (in practice, this would mean a modern form of slavery), we believe that it can be managed. On the one hand, through the establishment of mechanisms that enable such knowledge to be "deposited" and made accessible to everybody in the organisation. The company can create information repositories, corporate databases or expert systems in which their employees can deposit their knowledge, experiences, etc. In other words, converting Human Capital into Structural

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<sup>18</sup> Edvinsson, Leif y Malone, Michael S., *El Capital Intelectual*, Barcelona: Ediciones 2000, 1998, page. 55

<sup>19</sup> Edvinsson, Leif y Malone, op. cit., page. 27

Capital. And on the other hand, creating systems of motivation to keep talent in the organisation and, as a consequence avoid human capital “leaks”. All of this combined, would mean the “management” of such capital (although it would never be the “property” of the organisation itself).

As we can see, therefore, all the authors that we have mentioned (Nonaka, Edvinsson, Muñoz-Seca, etc.) share the same opinion about one aspect, which is the **dynamism** of knowledge. Knowledge Management implies that this knowledge circulates, is transformed, is distributed, is updated... Thus, we must avoid considering Knowledge Management as the mere existence of some information repositories in which people’s and organisation’s “know how” is being deposited. Knowledge Management does NOT mean “constructing” an immense virtual library, as we have come to hear from major companies representatives who claim that they have being doing this for years, based on the mere fact of having huge databases available.

## **5.2. The Knowledge Economy.**

PwC prides itself on having knowledge as a main component of the services it offers, which in turn are based on this knowledge. Moreover, their Knowledge Management programme came about as a result of the merger between Price Waterhouse and Coopers & Lybrand, and was a fundamental element in the integration process. But their approach is not limited to the organisational field, because they consider Knowledge Management as only one more part of a global movement that they call the “Knowledge Economy”<sup>20</sup>. This economy is characterised by the modification of the sectorial structure of the economy, the appearance of new economic activities, the

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<sup>20</sup> The OECD defines the Knowledge Economy as the “economy based on the production, distribution, and use of knowledge and information”, OECD (1996), “The Knowledge-based economy”, mentioned by Barceló, María in “Hacia una Economía del Conocimiento” (Towards a Knowledge Economy”), page. 17, ESIC Editorial, Madrid 2001

greater investment in intangibles (R+D, Innovation, Training...) and greater professional qualification.

Transferring this concept to the business field implies a change of approach and mission of these organisations, which are gradually becoming organisations based on knowledge. These organisations can be distinguished by<sup>21</sup>:

- A tendency to increase the information content in their products.
- Greater capacity to quickly implement changes in the design of products and services.
- Flexibility in the productive processes.
- Team specialisation.
- Greater technological dynamism.
- New organisational patterns, which place emphasis on the systems of interaction.
- Re-orientation of human resources management.

This process of change takes place as a consequence of the fact that the capacity of a company to create value does not depend anymore on its financial and/or productive capacity, but rather on its accumulated knowledge. Thus, and in this sense, PwC defines Knowledge Management as “the art of transforming information and intangible assets into a constant value for our customers and staff”.<sup>22</sup> Or, saying it in another way, it should be the tool that allows organisations to adapt to the new model that the Knowledge Economy demands.

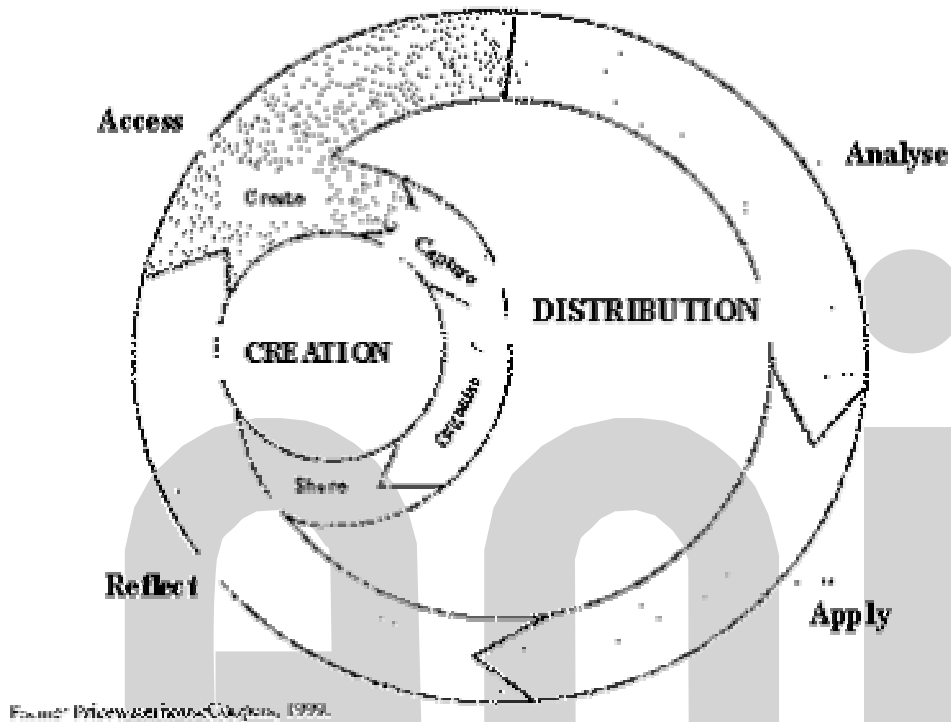
PwC’s vision of Knowledge Management is mainly practical and orientated towards the carrying out of projects for their customers. This vision is, however, also based on the existing theoretical framework relating to Knowledge Management and organisational

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<sup>21</sup> Barceló, María, op. cit., p. 38

<sup>22</sup> Barceló, María, op. cit., p. 39

learning Processes. Its interpretation of the knowledge cycle is reflected in the diagram below.

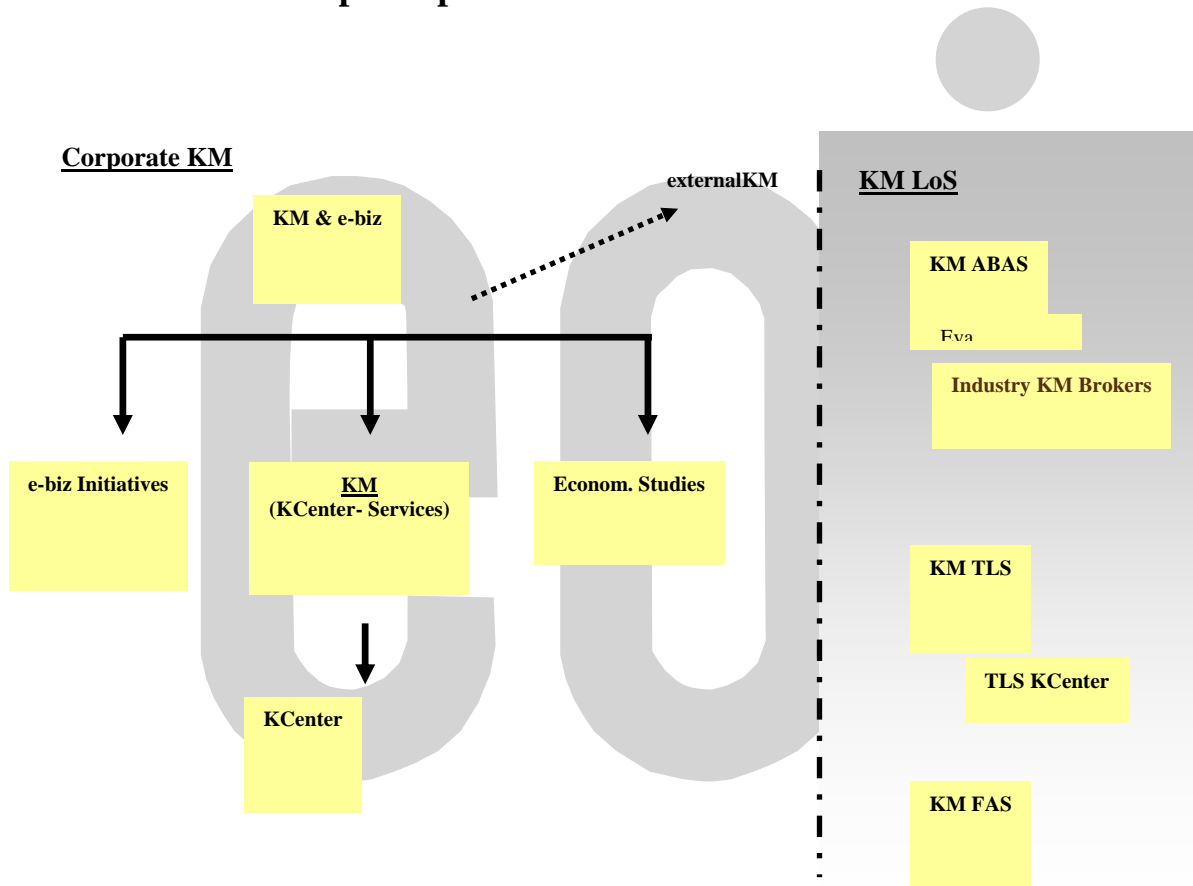


The first stage of the cycle is represented by the smallest circle, that starts with the creation of knowledge, which is followed by the capture of that knowledge, which undergoes an organisational process to be integrated in repositories, databases or files that facilitates its retrieval, and, therefore, its sharing, represented in the last stage of this cycle and connected with one of the stages of the second circle.

The second stage of the cycle is represented by the biggest circle that initiates the cycle in the creation of knowledge stage. In the next stage, access, the existing knowledge in the organisation is identified, and this stage includes the identification of people who hold the knowledge. Afterwards, an inevitable process of reflection takes place where the knowledge and experience of the individual or group that have accessed it play a part in order to analyse what they have learnt and facilitate the necessary creative process so innovation and application to work, job or task can take place. This is finally

reflected upon, which means that we learn from the applied knowledge or a new one is generated. This second stage results in the cycle being closed and a new one is generated again.

### 5.3. Knowledge Management Group Structure in PricewaterhouseCoopers Spain.





## 5.4. New Trends in Knowledge Management.

### 5.4.1. New models in Internet to manage Talent and Knowledge.

*Juan Carrión Maroto*

*Article published in “expansión-directo” 9<sup>th</sup> February 2001.*

As Juan Carlos Cubeiro, a HayGroup consultant, states, the more technology is developed around us, the greater will be the need for talent (for people with the technical and emotional competencies, that mark the difference). We should be aware that a company's performance depends more and more on the talent of the people who work in it. Without doubt, people have become the most valuable asset of organisations.

This implies that we are in an all out fight for talent. Attracting, developing, and retaining talent is the new strategic challenge of XXI century organisations. The employee with talent is the fundamental asset that a company counts on. Nowadays an unprecedented event is taking place: the company does not select the professionals, but rather the professionals are the ones who select the company. Attracting people with talent is not easy, but having the capacity to develop their potential and to retain them is even more complicated. In the Internet world the challenge consists in managing talent.

We have to clarify an unavoidable fact: technology does not permit the generation of sustainable competitive advantage in the long term. Technology without talent is not capable of generating extraordinary results. This is the case of some dot com companies that have gone bust recently. Many of them had enough technological capacities to compete (although more than one business model was not viable), but the majority have gone out of business due to a lack of talent. Talent is much more than knowledge. Talent can be cultivated, and although it is not impossible, it seems very unlikely that a 25 year old can have enough talent to manage an organisation of any type. This has been a crazy period ...I remember some months ago when a Headhunter contacted me offering me the position of Manager Director in one of those new dot com companies.

My answer was clear: I am only 29 years old...are you crazy or what? In Internet the main problem has been and still is foolishness.

Organisations have to look for different strategies to attract and ensure the loyalty of their employees. One of the most interesting strategies, apart from creating an appropriate working climate and building an ideal company culture, is spoiling the employee. Spoiling talent. You somehow have to manage to treat the employee as an individual. Not all employees are the same nor do they have the same worries or motivation. The company has to make every effort to give everyone what they need at any moment. This is the challenge.

It is curious to observe how in the present environment, where technology is so important, man once again becomes the centre of attention. Once again we believe in the supremacy of people over technology. The companies, which concern themselves with managing processes related to the management of their employees, generate sustainable competitive advantage in the long term.

Being aware of the importance that employees, and their development inside the organisation, have as a source of competitive advantage, a series of models are appearing related to the use of web technology inside the organisation as support for the Human Resources, Marketing and Commercial Departments. In these models employees take on an absolute lead role, and are aware that their contributions will be fundamental for the future of the organisation.

It is also fundamental for the company to manage their employees' knowledge and to obtain an increase in its Intellectual Capital (pedantic denomination of what has always been known as intangible assets). Knowledge Management is positioning itself as the great paradigm of Business Administration in the XXI century, but it has to face an important challenge: to become a practical discipline that helps to improve the internal management of organisations. This problem arises because nowadays it is talked about a lot, but rarely implemented.

As we see it, we have two great challenges ahead: to manage talent and to manage our employees' knowledge. Well, let's stop talking and move into action. The question then is: how can an organisation use technology to put into practice concepts related to Talent Management and Knowledge Management?

The answer is certainly complex, because there are many software companies that promise to help us manage our employees' knowledge in an optimum way. Except that, I do not know any of them that sell Talent Management software, but it is only a question of time before it appears.

To begin with, we have to think about how incredibly underused Intranets are in the majority of organisations. They are usually simple notice boards, with uniform contents that do not contribute anything. Of course, they do have an Intranet running, but it is not used to automate processes, or to effect a dynamic content management. It is a pity to use a tool with such great potential so badly.

Despite everything, some companies are beginning to operate internal portals, called Corporate Portals, where employees have access to many added value services that the company provides (including the software application that they need to work from any point in the planet). We classify these types of initiatives with the abbreviation B2E (Business to Employee). B2E consists of applying Information Technologies inside organisations and of providing all types of services to the employees through the use of Intranet.

Several initiatives can be classified under the umbrella of B2E. Let's look at some of them: e-learning; description, analysis and evaluation of job positions; internal communication, internal virtual shop, career planning, performance evaluation, selection procedure automation, applications for the recruitment of new employees, work environment surveys, internal recruiting, pay policies, competencies management, staff satisfaction surveys, tools for the adjusting of the employee to the job, legal advice, payroll information, management of training plans, tools for the assessment of candidates, employees yellow pages, telephone list, clipping service, applications for

workflow automation between different departments of the organisation,... all things considered, the limit is our imagination.

As we have seen, the initiatives related to B2E can be many and very varied. But we can also talk about other types of models:

- E2B (Employee to Business). This model allows employees to offer the organisation services that are complementary to their working relationship. An example would be having a references service in which an employee can introduce a friend or a former colleague from another company as a possible candidate to fill a specific post.
- E2E (Employee to Employee). In this case, employees could use the company Intranet to establish a market in which the members of the organisation could do all type of transactions. They could be communities of practice about a specific area of interest. Let's think of things like a second hand market inside the organisation, advertising noticeboards, or buying groups,...

Some authors like Alfons Cornella, are beginning to talk about new abbreviations such as E2C (Employee to Customer), C2E (Customer to Employee), E2A (Employee to Administration), A2E (Administration to Employee),... which seem difficult for us to imagine, but probably, within a short time, they could have some meaning within our companies.

#### 5.4.2. E-learning: a new vision of business training.

*Juan Manuel Cruz*

*Director of Business Consultancy PricewaterhouseCoopers*

*Extracted from [www.e-learning.es](http://www.e-learning.es)*

The incorporation of Internet as a new channel of distribution of knowledge in the company is, nowadays, the big challenge for the heads of Human Resources. Nevertheless, a major part of these departments has resisted counting on new technologies for the management of their processes, with a mixture of technophobia and romanticism in defence of the fountain pen.

This position has distanced HR departments from business reality and the great innovations of recent years, such as executive information systems, rationalisation of processes and creation of workflows, implementation of ERP systems or new internal communication channels (mail, intranets, portals).

##### **Internet and the new business challenges.**

The massive incorporation of IP solutions to companies has created a new scenario quickly adopted by those areas most interested in technology. The results are beginning to become evident and an increasing proportion of transactions are already carried out through the net. Banks are discovering a new minimum cost operating channel and the relationship between companies and suppliers is being directed towards the net. Marketing, corporate image, communication, CRM applications and personalization are the new keys for business success and a vigorous e-business future is shaping up as much for the dot com companies as for the traditional ones.

Once the present crisis, caused by the very rapid and excessive dot com growth, has been overcome, it will be more and more evident that Internet is here to stay and that the

Net offers possibilities, which still have not been sufficiently valued for the advanced management of the company's intellectual capital.

### **Internet and Human Resources Management.**

Up to now, the introduction of IP solutions has focused on the creation of B2E environments mainly orientated towards unidirectional communication and to basic transactional processes (payroll, expenses, travel authorisations, permits, holidays...) which, on account of their efficiency and need have become clear business cases for the implementation projects. But in reality, they are solutions applied to human resources, not human resources solutions.

### **E-learning, a killer application for human resources?**

The incorporation of e-learning as a training channel can become the first Human Resources Internet solution in the company and it increases the possibilities of creating a new concept of intellectual capital management. But, for this to happen, you need to incorporate a new concept of training and to point out with respect to e-learning that:

- 1- It is not an exclusive training model. We must give power to the implementation of this channel in an integral concept of training, blended learning, and Knowledge Management of the knowledge residing in the people who make up the organisation.
- 2- It opens enormous possibilities to set up a true management by competencies model, really integrating competencies, knowledge and the processes of acquisition and diffusion of them in the organisation.
- 3- It demands a new concept of training giving responsibility to people. Human Resources does not provide classes, but the department makes a wide, attractive offer available for the professionals, which allows them to improve their knowledge and

skills in a self-development model.

4- It allows the creation of open and permanent collaborative environments. It does not only allow training but also allows scenarios to be created to share and disseminate knowledge in the organisation.

5- It offers the possibility of creating environments of relationships between the company and the professional which go beyond mere information. In the end, we are facilitating training (and not only instruction) to the professional and his personal environment (for example facilitating training to his family) under the umbrella and corporate image of the company, promoting a real use of intranet and extranet.

6- It allows us to create, with the incorporation of new GPRS and UMTS mobile communications technologies, high quality mobile information/training environments to support the management of those professionals who are out of the company's offices.

All of this without the need to introduce complicated technological solutions because, from its origin, e-learning is turning out to be a typical ASP solution where the suppliers assume the management of the basic infrastructures.

To sum up, e-learning allows us to propose a new panorama where Human Resources takes on a relevant role in the use of new technologies to support business through a better Management of Knowledge and the intellectual capital of the company's professionals.

### 5.4.3. Content and e-learning: The king without a crown.

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*Talents*

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How do we really learn? What role can technology play for better learning? Why does such a high drop out rate exist among students on e-learning courses? How can we convert a passive reception of information experience into an active knowledge construction experience?

Once upon a time (beginning of the 80s) there was a young man (myself) who thought that the time for learning how to drive had come. And in order to achieve it, the most obvious option was to enrol in a driving school. There was also another option, which consisted of sitting at the controls of a car (my father's) near somebody experienced (my father) who would help me to learn.

As the second option was easier (and cheaper) I started to drive my father's car in areas of San Sebastian with little traffic, abusing my father's patience and trying to follow his advice every time I was not doing it right. As time passed, I was left with no alternative but to enrol in a driving school, study the highway code and do lots of multiple choice tests and even pay for the minimum of obligatory practical classes. As the climax of the story and, as all of us have done, I had to pass the theoretical exam and the practical one (I remember that it was one of the few days when I had seen it snow in San Sebastian and I could feel, on the back of my neck, the breath of the sober and inexpressive examiner). Result: Almost two decades later I continue to drive normally although I have serious doubts as to whether I would be able to pass the theoretical exam.

I suppose that there will be people who will question why I have chosen this example to treat the subject of e-learning content. As we will see, there are many common aspects:

- Learning took place out of the classes: reflexes, manners, prudence, breakdowns,



traffic jams, accidents ...

- Motivation.
- Learning at the time it is needed.
- Learning by doing.
- The importance of making mistakes.
- Reasoning.
- The possibility of having experts on hand to consult when making mistakes.
- The role of emotions.

However, the way we learn to drive is not, by any means, a typical example of the way we are taught the rest of the skills and knowledge necessary to work and live in our society.

I do not have any intention of adding another e-learning definition to the long list that circulates nowadays among us. I also want to advance that we are at the dawn of something that presumably is going to have an enormous impact on the way we are going to learn from now on, in the same way as computers have radically changed our way of working. Nevertheless, the principal means of production in the global village continues to be the human brain. We know that content does not have a magic power to convert a student into an expert. Learning is a complex task; it is an ability in itself that requires time and also the design of good content. And, as with everything else in Internet, students are always a mouse click away from giving up the course.

As a starting point, I would like to point out the two questions that we should ask ourselves when evaluating e-learning content:

- How far does it resemble the work that we have tried to train the student for? For example, if it is a Negotiation course, does the student negotiate? Does he face different situations, personalities, and problems?

- What does the student know how to DO after finishing the course that he did not know before, does he know how to negotiate? When he arrives at work, will there be situations in which he could think “I did this yesterday in the course, I know that I made a mistake, but I also know how I corrected it and therefore I can apply it”?

If we are only slightly critical, we will realise how few, very few contents - e-learning or not- pass this first test.

To start talking about content we must take into account three factors, which as a general rule go unnoticed, but which are however a keystone on which all the other parts depend:

HOW do people learn and in accordance with this, HOW do we teach and WHAT do we teach.

To analyse it –and although we think that e-learning is the future that awaits us- we only have to go back several centuries:

Socrates made it clear that knowledge was inside and not outside people and he tried to help them to reason by themselves. Aristotle affirmed in his time, “What we have to learn, we learn by doing it”. The Romans also understood that Educare consists in getting the best out of oneself. Plutarch said, “The brain is not a glass to fill up but a spark to ignite”. Even Galileo stated, “We can not teach anything to any man, we can only help him to discover it by himself.” And what do we do? We try to fill up students’ heads with huge amounts of data, we give them exams and if they answer with what the teacher has said, they pass and get a degree. But the best teacher is not the one who gives the right answer but the one who helps us to find it by ourselves. We judge courses by “kilos” of content, by hours of classes. Human being’s ability to process information is finite. Einstein said, “I do not need to know everything. I only need to know where to find what I need, when I need it”.

But reality, and all of us who studied a university degree have been able to verify this in the flesh, is very different. In life there are no right answers nor are we given written

exams at the end of the month at work. Life is more complex than all that. At most, there are things that work and things that do not. In a company, people are not the most important thing, not even their knowledge. The most important thing is their EXPERIENCE, what they KNOW HOW TO DO. That is the reason they are hired, the reason they contribute value and the reason they get paid. If we stop to think, the majority of the things that we do at work we did not learn how to do them at school or at university. We have learnt them during many years of work and effort, of making mistakes, learning from them and accumulating an extremely valuable experience. And the more experience we have at work, the better we do it. I did not learn to drive at the driving school, I learnt during many hours sitting behind the steering wheel doing kilometres and experiencing different situations.

This leads to the first statement on HOW DO PEOPLE LEARN. We learn doing and not listening. The model “I know, you do not know, I’ll tell you” is not real. When somebody has a question it means that he is thinking, exploring, searching for explanations, solutions. Only then I can be sure that he is beginning to learn. What opportunities do we give in courses to think, research, experiment, ask?

This is the usual process that we unconsciously follow to learn:

- Looking for an Objective (for example, going on holiday to Australia)
- Acting in consequence (booking a flight, a hotel, looking for information about the country, etc.).
- It is probable that we will go to the airport and things won’t happen as we expected because, for example, we are faced with an Overbooking problem that leaves us on the ground until the next day.
- We reflect, search for an explanation (you have to confirm the flight 48 hours in advance) and store it in the memory. WE LEARN. The next time that we plan a holiday we will know that we have to confirm the flight before going to the airport.

Underneath, an expert is no more than a person who accumulates a great number of situations, who has practised so many times some specific tasks that he has ended up mastering them perfectly. He has created automatic answers to all these situations, has accumulated experience on how to solve them in a way that he knows the answers to them, almost without thinking. The only difference with the others is that he has been training with care to resolve all these situations. But let's not forget that at the beginning he was like the others, he started from zero.

At the office, we do not spend hours listening to somebody, we spend hours doing things continuously. If it were that easy, it would be enough to listen to the best experts on every subject to become experts like them and in this way, student failure would end and to a great extent, the education business would be different. Problems cannot be understood intellectually, they have to be experienced. Does anybody really think that we can modify people's behaviour, change their way of doing things so they can do them better by the mere fact of sitting them in a classroom or putting a text on a screen and giving them some exercises?

If what we learn does not come from personal discovery, from experience, or from a specific situation, we neither remember it, nor learn it. Who of us would be capable today of passing an exam on any of the subjects of our degree? Probably hardly anybody. The problem is not that we have forgotten it; the problem is that we never learnt it. All we did was memorise a series of data for a determined day. From here, our brain, which has an enormous facility to eliminate what it does not need or use, substituted it for other information and deleted it. In fact, real knowledge is unconscious. To get to explain and formalise what we really know how to do, we have to stop to think for a good while and it will be difficult to try to express it clearly.

For example, to learn how to drive, I had to overcome four phases:

- I do not know that I do not know. When I was 12 years old I neither knew how to drive, nor did I know that it was necessary to know how to drive, because it was a subject that did not bother me in the slightest.

- I know that I do not know. When I was 18 years old I realised that driving was something useful and I did not know how to do it.
- I know that I know. When I got out of the car that day in November when it was snowing, I was aware that I already knew how to drive, although I had to think carefully about almost every step I took.
- I do not know that I know. When I use the car today, I do not even have to think what I am doing. Putting the seat belt on, starting the car, taking my foot of the break, pressing the clutch, going into reverse gear...it has become something unconscious.

Here we can introduce one of the most relevant aspects of e-learning content. Motivation. I learnt to drive when I realised that for not depending on public transport, or other third parties (mostly my parents) or other limitations, driving was the best solution. Motivation did not exist when I was 12, but did when I was 18 in the same way that 12 months ago not many people were motivated to think about the Euro as a currency. However, motivation is basically internal, it cannot be imposed, and a motivated person can learn from an old piece of paper while a person who is not motivated will not learn even if we pay for him to do an MBA in Harvard.

Now, everybody is motivated by objectives, things or situations that interest us and for which we are willing to act to reach them because they give us pleasant sensations. When you have an objective, you have interest in learning to reach it. This is a fundamental element because the student learns when he wants to and not when the teacher decides. We cannot oblige him to learn what we know without arousing a previous interest. Nor can we teach him what we have decided that we want him to learn, especially if he is capable of realising that he will probably not be able to apply or transfer what we are telling him to his work. The protagonist is not going to be the teacher anymore who will stop being the owner of knowledge and the authority that decides the student's future. But if we are capable of aligning ourselves with his objectives, if we are capable of understanding what moves him, what it is that motivates

him, what he likes, then we have an incomparable opportunity to design some content that is attractive and where he is the protagonist of a story in which he has to play an active role, a lead role to build his own knowledge.

And generally it is here where a great opportunity is being missed. How can we expect students to dedicate anytime (“anytime” is usually their free time) anywhere (“anywhere” ends up being their own houses) to read boring manuals transformed into HTML on a screen and to do self-assessment tests? At least in the class they can chat with their colleagues when they are bored. Computer is a doing device, a gadget to do things and not to go through pages or to listen to passively. For that we already have television. Nor is Pressing icons synonymous with interactive. E-learning does not mean reading on a computer screen what we used to read on paper before. Neither is multimedia (beautiful animation, sounds, images, spectacular videos) synonymous with learning. The reason why only a few people are capable of enjoying doing a course via e-learning is because the person who has designed it, has done it thinking about himself, about what he knows and what he thinks the others should know. However, we live in an era where it is the customer who judges the products and not the other way around. Thus we have to do things with the customer as a point of reference, thinking about what he likes, what he enjoys and what he needs. But that implies undertaking a much more complex task.

Let’s look at a couple of examples: To learn the provincial Spanish capitals by heart is probably not a very attractive proposition for a child. However, if we design content where the child forms part of a football team or a band that has to play in a different city every week, it is highly probable that in the attempt to reach the objective that motivates him (planning the trip, playing in every city), the child will learn what we want and he will do it having a good time and without realising.

Second example, a Macroeconomics course, and I have chosen it because I find it particularly dry. All the models used nowadays are as similar as water drops. At the time of teaching a Macroeconomics course, it does not matter if it is face-to-face or not. Monologue by the Teacher or qualified expert during many hours and maybe some kind

of evaluation to check if the students have understood the concepts. Result? In theory a not very attractive course, with a huge amount of theoretical content and very little interaction and real learning.

Can we ask the student to be motivated? It will be very difficult. Can we ask him to participate – and overall- to have enough knowledge to carry out a job in that area when he finishes? It is too much to ask. The student himself has his own doubts about if “he knows that he knows”. Will I be capable of DOING what I have been told to do in my everyday work? Nevertheless, the problem does not stem from the student, not even from the subject. It stems from the method.

Is there anything that we can do? Human beings are curious by nature; they like playing (football, cards, role games or doing crosswords). Lets present things in reverse. It would be logical that if somebody wants or has to do a course in Macroeconomics it is because he works or wants to work in a position where he can apply that knowledge. Let's then build a story to recreate, at its best, a real working situation where he had to put into practice his knowledge. We have to create a scenario to place the student, assigning him a role and an objective to meet, a goal. Let's propose to him for example the following, "You are going to work in the team of advisers for the president of the USA, a crisis of petrol delivery breaks out and your task will be advising him on the different measures that he has to take to resolve it".

To begin with, we are already presenting him with a challenge and the overwhelming majority of human beings react positively before these stimulants, especially when they realise that they are going to gain direct benefits in their professional work. We do not bore him with introductions to the course, about what it will be useful for. We have to get his attention and interest him from the beginning, make him adopt a proactive attitude, make him "do things". From here on it will be the student who has the keys to fend for himself in an environment where he is going to find All the elements he needs, in the form of information, experts videos, real stories about similar cases, working tools to carry out his task and "do things" (a report to the president, defending the report in a press meeting, etc.). But it will be him who has to do it, with his brain and his

reasoning, And above all, failing and reasoning on the reasons for his failure to find the solution to his error. There is no better tutor than yourself when you are captivated by an activity that fascinates you.

## **HOW WE TEACH**

We have to accept that education has developed very little over a long time. If we enabled a surgeon from 400 years ago to travel in time to an operating theatre of today, he would probably enter into a state of a shock because of the difference of scenarios and his incapacity to understand the situation. However, if we did the same with a teacher, it is nearly sure that in 5 minutes he could take command and follow the class with total normality (Fray Luis de León's famous classroom desks are not that different from the ones I used). The general tendency is still blackboard and rubber and this means that the teacher does 95% of the work. He speaks, reads, explains, writes, dictates, asks, etc. But the strange thing is that it is the student who should do 95% of the work, because he is the one who must learn. Does anybody imagine a father teaching his son to ride a bike and spending 95% of the time pedalling sitting on the bike while his son listens to him? Or learning to cook watching Arguiñano on television? Besides, the one who teaches is not always the teacher, nor is the one who learns always the student.

In the case of e-learning, we are practically reproducing the same model, not leaving any space for the student to reflect, take decisions, research, ask himself questions and have doubts. All we ask him to do is to move pages forward, to read and listen and to do some tests at the end.

In order to learn, the student must be the protagonist who has to do things and not just listen passively to somebody else telling him how to do them. Nobody learns to negotiate without negotiating and practising a thousand times to perfection the skill that ends up being automatic and unconscious. And to achieve this, you have to experiment, make mistakes, reflect, search for explanations, get advice from who knows, try again,



that is, be Proactive. Memory and learning are closely tied to our emotions. And it does not seem very exciting or memorable to me that during a course (or a degree) your role consists in sitting in a classroom to listen and take notes. If people are increasingly going to have more autonomy and more decision-making power, they should be taught for that and not just for applying the rules as if they were robots.

## WHAT WE TEACH

According to what companies themselves ask for and need, the following (although not exhaustive) would be the photofit description of the student profile for recent university graduates:

- Ability to write correctly and in a structured way.
- Speaking in public and doing oral and written presentations.
- Ability to analyse.
- Reasoning and problem solving. Negotiating.
- Teamwork.
- Entrepreneurial spirit.
- Creativity and innovation.
- Communication.
- Emotional intelligence
- Ability to learn and unlearn.

Unfortunately, this is not what we learn at university (or almost anywhere, we learn working and practising). University produces academics, first year degree teachers, but not professionals. Among many other reasons this is because those who usually teach are not professionals but academics. It is almost like how is a priest going to give me classes about marriage (unless we consider he has married God). This is so evident that companies are creating their own Corporate Universities to try to correct this problem.

There are already several hundred corporate universities listed in the United States, a phenomenon that is beginning to spread in our country. The bad thing is that they then reproduce, with the same errors, the same learning model as the other universities.

All those skills, which we are really valued when getting a job, hardly appear anywhere in the university. We get Latin classes, algebra, Trigonometry and many other things that we will never use or remember, and nevertheless, we will never learn about Health and Nutrition or Learning to Live Together with a partner for many years.

In the United States there are some initiatives where the companies themselves are preparing these robot descriptions that group together the basic skills that they need for their new employees and there are negotiations in progress with some universities to start creating university programmes adapted to these needs.

#### **KEY ASPECTS TO DESIGN E-LEARNING CONTENT:**

Let's take as a base the example that has served us as a guide up to now, which is Learning to Drive.

Learning Doing: It seems obvious to think that learning to drive is a "Doing" activity, Learning is split into two parts; Theoretical and practical. The truth is that it does not make much sense doing it separately because when we drive, we use both facets at the same time. Therefore, the ideal would be to learn the theory while we are practising, because that is when we will be more able to establish the connection between the theory and its application to real life. Considering that it is essential to know the road signs and the basic highway rules, the key part is the practical aspect, to control the vehicle. So, what we are going to do during our life is driving a car in a multitude of situations. If, for learning to drive, we only did a theoretical exam nobody would understand. However, in the majority of cases where companies or educational institutions try to teach something to students, the students hardly ever have the opportunity of practising, of "Doing" what we want them to learn. Sales, Emotional Intelligence, Customer Care, Project Management, Managing Meetings courses and any

other example that we might want to show, describe situations, talk about principles, theories, definitions, but they do not put the student in the situation of Selling, Showing empathy or Care to a customer. The student NEVER sells or deals with customers. Incredible but true, especially when the activity of the students at the end of the course will be specifically that one. They are not pushed to think, take decisions, make mistakes, and react. It is a case of superfluous superficial reasoning. Let's reflect: How long is the student actively doing things during the course? And how long is he passively reading, listening, observing?

Experts: Stories, Cases and examples. People think in words and communicate with each other fundamentally by speaking. Our life is a story and when we describe situations, we usually do it in form of tales and stories and we use examples to be better understood. From the beginning of times, oral tradition has had a prime importance and therefore it has incorporated in its narration a huge quantity of information and knowledge.

Key figures at the time of designing any content are the experts, those people, from outside or inside the organisation, who have managed to master their work area to the point of being recognised as the best. We must be capable of working with them to understand what process they follow, where the most common mistakes are made, what is the best way of correcting them, etc., and build content for the rest of employees to "live" the same experiences. But more importantly, those experts, recorded on videos, online, have to be on hand for the students, to consult in the moments they need to advance. We cannot throw away opportunities to learn and because of that the experts must always be available. My father was that expert when I had problems to park or when the car jerked forward when starting or changing into first gear. Obviously, the value of technology is to provide, within easy reach, all those experts who we will probably never be able to meet. Hundreds of years ago, education was reserved for the elite. Only a few people had access to it. These privileged people had their private tutors who educated them in all kinds of subjects in a 1 to 1 environment. Democracy brought the universalization of education and we moved to a mass 1 to X education

environment. Instead of 1 teacher and 30, 50, 100 students, technology allows us to go to the opposite situation: 10 teachers for 1 student. Can anybody give more?

Having relevant information available at the time it is needed. This is closely related to the factor of motivation. If I am not going to use what I am learning within the next 10 months, I am hardly going to pay much attention. The closer the learning environment is to the real world in which the student will carry out his work, the more effective it will be. And the closer their interests are the easier for him to learn and the greater the willingness to learn more. Besides, in the Internet era, it is logical that people learn when they need to and not when it is convenient to give the course or the classrooms are available or it suits the experts.

Motivation: Motivation and curiosity are the energy for learning. There is nothing that can overcome the strength of a person who is stimulated by a particular subject. How many colleagues have we had at school that had very bad marks but they knew everything about sports. We all have an enormous abundance of energy and creativity whose limits are unknown to us, but we do not take advantage of this because our education and work system repress it. If you have ever seen how many people are needed to reduce a lunatic you would understand this point. The challenge lies in transforming students from attendees to participants. As I pointed out at the beginning, it would not have been worth anybody trying to teach me how to drive when I was 12. The student must pursue his own objectives and we will only learn when we ask ourselves a question and go to look for the answer and not when the answer comes to us without asking. We have a great opportunity to offer the employees instruments and tools to do their job better. And most people would be grateful for this possibility; nobody likes the feeling of insecurity or the fear of not doing it well.

Mistakes: It is very important to practise, but it is especially important to make mistakes. Why? Because when we make mistakes, an automatic mechanism starts to look for the way to resolve the problem, either on our own or asking somebody for help. And it is at that moment when we are ready to find a solution or to listen to somebody who helps us to find it. This learning moment is the key and it is only activated when

things do not happen as we predicted. That is why practice perfects learning and reflection leads to deep learning. The best examples of this are children: They do not know they are learning, they are not aware and they have objectives (speak to communicate, walk to explore places, etc.). They are authentic learning machines: Has anybody seen a child depressed by his mistakes or who has decided to stop trying to learn to walk? They are motivated and learn through making mistakes that their parents always consider as necessary.

The computer allows us to practise as many times as necessary. Computers have infinite patience with us and overall our mistakes do not have consequences because they constitute a secure learning environment. And while in real life, people make mistakes accidentally, in the virtual world we can induce people to make them. And this is an advantage from which we can get incomparable benefits, you only have to think about flight simulators. They also allow us to reproduce expensive or dangerous scenarios, with relative ease.

The student decides his own rhythm and controls his process. It seems indisputable that if we are living in the 1 to 1 era, it is difficult to understand that students have to be the same day, at the same place, at the same time, at the same page. And that, if a teacher explains something, while a student is thinking about it, the other keeps on going. Although we, people learn all the same (doing) we have different styles. Some prefer to go directly into action, others prefer to investigate, others to ask for advice, others to see how an expert does it. That is why good content must take into account that it is necessary to provide different routes so that all those styles are represented and the student can choose his own way. Besides, not all of us have the same capacity to learn, some go faster than others. We have 5 senses and the more of them we involve, the easier will be the task. Therefore, e-learning also consists in giving the student the freedom to go ahead when and how he wants.

The result of the task is the exam. Does it have any importance the fact that I passed the theoretical exam or what is really important is that I can drive? We have a tendency, which is very difficult to control, of measuring knowledge on the basis of exams and

tests. Probably because it is much easier than trying to measure performance. But life is something more than True or False. Let's try to measure real tasks and let's not simplify even if it is more convenient. If I want to teach somebody to ride a bike and the following day that person can ride the bike, I do not care if that person knows how many spokes the wheel has or where the front brake is.

Entertaining. Learning must be fun. Thinking can be fun and learning too. Although we traditionally associate education with serious environments (everybody wearing uniforms, in silence or being punished) the reality is that human beings get involved with those things that amuse us, that entertain us. It is in our blood from childhood. We like playing, we like enjoying ourselves and if we add a little bit of creativity into it, we will see that "proposing an enjoyable learning experience" is not so complicated. Even more than this, it is going to be essential. We live in a society with constant stimulus, entertainment, cinema, television, video games and students are not going to understand or accept boring, dry content. They are going to want to learn and have a good time while they are learning. But however wonderful the atmosphere is, however gratifying the experience is, if it is not directly connected with what the individual faces in his everyday work, we won't get it to be effective for the intended objective: They have to be capable of doing better their tasks.

Emotions. Human beings remember experiences that have left a mark on their lives. The first girlfriend, an accident, the death of a relative, September 11<sup>th</sup>. As we have said, memory and emotion are very closely tied. When we go to the cinema, we do not only go because it amuses us, but also because it makes us dream, feel emotions, reflect sometimes, live stories, identify with the characters, hate them, defend them, cry, laugh. However, we know it is only a film. If we are capable of causing that type of reactions a student, we will reinforce learning enormously. We must try hard to cause memorable, intense, eternal situations in which the student forgets that he is in a virtual simulation and lives sensations he lives in real life. And it is possible. Of course it is possible.

Learning is individual. Although people live, learn, and work in groups, real learning is individual. What I know how to DO comes with me wherever I go. Groups encourage

social relationship and reinforce learning, but the process is individual. E-learning allows differences between individuals. I learn from others and with others, but I am the one who is learning. I can drive or cannot. That is why the teacher's first role will be Learning to Teach and then to Teach to Learn (and not so much to be the best in his subject) while the student's first role will be more and more learning to learn.

Why is e-learning failing?

Because there are things that computers nowadays cannot reproduce as in the real world. To learn to speak in public, there is no alternative but speaking in public.

Because the way people learn does not have anything to do with the way we try to teach them. To study does not have any sense, to learn does. It is not natural to spend hours sitting reading or listening when we spend the day doing things, active, in continuous movement.

And also because some of the people in charge of e-learning in companies are the former training heads and we are thus in a situation that would be similar to handing the post office responsibility for all e-mails.

### **THE MOST COMMON MISTAKES WHEN DESIGNING CONTENT**

- Digitising the current paper contents. The mere fact of putting information or contents on a web does not mean that it is going to be learnt. Internet is a great library but that should not lead us to think that we have placed all knowledge on earth together in one giant database. If we continue putting on the web the same manuals that we use in the classrooms, we are only making the model worse even if we want to disguise it with forums, tutors and collaborative tools.
- Believing that listening, reading and memorising are learning.
- Believing that choosing an answer is equivalent to practising.
- Believing that choosing the right answer is a good test of aptitude.
- Giving the right answer when you make a mistake.

- Believing that describing a situation substitutes being there and living that situation.
- Forgetting that learning and having a good time are not contradictory concepts.

You PRACTISE, and when you have PROBLEMS, we will help you. This is what technologies are useful for. The 1 to 1 of e-learning changes the model: Computers do not get bored, they eliminate the fear of failure and feeling ridiculous, they allow us to experiment, to simulate real situations and different learning styles.

The process for the student is the following:

1. He is situated in a scenario: Real (physical or virtual) situation.
2. Some Objectives are set which he must reach.
3. He begins to ask himself questions to enable him to reach the objectives and doubts emerge:
4. Here we come in offering support: experts, case histories, theory, etc.

Now ask yourself this question: How many courses do you know where all these elements are combined? When have you seen such a well designed course that you irresistibly feel like doing it? Moreover, professionals do not need courses, solutions to problems is what they need.

Calling what has been done to date e-learning seems a bit cheeky to me. There are more suitable names like e-reading or e-training. There are very few people around who could be considered expert in this field, a field which a few years ago was completely unknown. We know of very few successful experiences and yet there is quite a lot of confusion. A good professional is not synonymous with a good trainer. And neither is a good face-to-face trainer synonymous with a good online trainer.

I am offering you the opportunity to do the following experiment: Go to any of the multiple seminars, conferences, workshops on e-learning (there are dozens of them) Pay close attention to see if you are able to find in any of them a real example of a real course designed for a real customer that really has an impact on you, and proves to be



an interesting experience for you as it shows how to apply technologies so people can learn in a better way. Believe me, you can count them on one hand. Why? Very easy, because we never look at the world through the student's eyes and we still do not have experience in this field. We cannot build courses for e-learning without understanding first how people learn and without understanding that we are talking about a tool as new as the Internet. We are using new technologies (Internet) with an old mentality (publishing), which is natural, to a certain extent. The beginning of Cinema was very similar to this situation. Lumiere Brothers' first films tried to film theatre plays or real life scenes like "Workers at the gates of a factory". Some years had to pass before cinema could develop its own language (scripts, exteriors, sound, special effects, editing) to become what we know today. So we have to be aware that, as a general rule, we are at the first generation stage of e-learning content, which follows a similar outline to that of a textbook, whilst taking advantage of the improvement that digitization allows, such as incorporation of image, animation, sound and the ability to provide on-line exercises to the student. This content is linear and sequential and uses exams as an assessment tool.

However, if we talk about content to date, we are still talking about the poor relation of e-learning. Most of the money invested is dedicated to technology (LMS, communications, hardware), which continues to be a means but never an aim (a necessary but not sufficient condition). This leads us to put a disproportionate emphasis on distribution and therefore on saving costs while hardly being concerned about quality. As a result, the first experiences of students on an e-learning course are boring and disappointing, generating a significant drop out rate. We should not lose sight of the fact that technologies that we use for learning are the base, the vehicle that allows us a quicker, easier and more complete access. But the key is in the content. Technology is to content what the wrapper is to a sweet. They are both essential but what our students need is the content. The reasons for us to teach them is not technology, content is what they are going to use at work. Learning will stop being an appendix, an interruption at work to become integrated and be part of it like any other element.

Some time ago I read these two astonishing statistics:

Only 10 to 20% of learning is transferred to the job.

From the year 2002, for every euro spent on technology, five will be spent on content.

The key to e-learning lies in the fact that it is the ONLY way of providing up to date information and knowledge to workers (key weapons to compete) in an environment where the quickest defeats the slowest and not the biggest the smallest. Traditional training methods are simply not going to be able to keep the rhythm. All this is particularly true in big organisations with a high number of people to be trained and a wide variety of products and services. Thus, companies do not want e-learning, they need e-learning. And we have to start thinking about second-generation content. That content which is conceived with the idea that the student learns something through practising that something, or that based on the totally active simulator idea, in which there is no theory, and evaluation is made of the extent to which the student is capable of completing a task.

To conclude, it seems obvious to highlight that a magnificent opportunity lies before us. The education market is going to be one of the most important over the next few years (it is already positioned second in the United States economy). Companies know that the only sustainable competitive advantage is what their employees know how to do. And people are aware that learning is already crucial to develop their professional career. The demand keeps on growing continuously.

As I have argued all along, there is nothing better than the apprentice who learns together with the master and has the opportunity to look above his shoulder to see how he does things and receives his advice every time he makes a mistake. And this, which not so long ago seemed prohibitive, is now possible thanks to technology, which allows people to learn naturally, as they have always done. Let's not waste the opportunity. Today, when students take a brief look at a virtual campus, they either find very little content or the one they find does not thrill them. It is like when we go to the cinema

with the aim of enjoying ourselves for a while, a good film hooks us, a bad one bores us.

But tomorrow things won't be like this. Content quality will be the key that decides whether people opt for one offer or another. Technology will be transparent (as it is today in the case of cinema or television). And those who start designing content taking into account these and other factors will have more possibilities of triumphing in this still emergent e-learning industry.

This is the question that we should always ask ourselves when designing content: How can we transform an experience of passive information reception into an active knowledge building experience?

Content will be king and although it is still uncrowned, it won't be for much longer.

