

# KNOWLEDGE MANAGEMENT AT ERNST & YOUNG UK: GETTING VALUE THROUGH KNOWLEDGE FLOWS<sup>1</sup>

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## Abstract

*This case study looks at knowledge management (KM) at Ernst & Young UK (E&Y UK), at the end of 1999/ beginning of 2000. The case describes the business processes to be supported by KM in a professional services firm, and E&Y UK's efforts in developing a robust Knowledge Management system that can deliver value.*

*The case describes the electronic resources in place, the key processes and the key roles played by people in E&Y's knowledge management efforts. It concludes by asking how the system should be further developed in the light of the decision to globalize KM in the organization.*

## 1. INTRODUCTION

Tim Curry was in a rush but he didn't regret taking the call. He had just been invited to prepare a statement for a press release to be issued with the formal announcement on 5 June 2000 that Ernst & Young (E&Y) had been ranked, for the third year in a row, in the top 10 "Most Admired Knowledge Enterprises" in Teleos' annual survey. He jotted a few ideas down on his note-pad, and rushed out the office. He would make it in time for his next meeting.

Tim Curry is a partner and Chief Knowledge Officer (CKO) of E&Y, one of the largest professional services firms in the UK. In 2000, the organization employs over 7,000 staff in the UK and many more in overseas locations.

As are most professional services firms, E&Y is structured as a partnership, with 468 partners. The present organization was created in 1989 by the merger between Ernst & Whinney and Arthur Young. It operates in six distinct service activities:<sup>2</sup>

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<sup>1</sup>This case study was prepared by the authors as a basis for class discussion rather than to illustrate good or bad handling of knowledge management and associated processes.

<sup>2</sup>The sale of E&Y Consulting business to Cap Gemini was announced on February 29, 2000.

- Audit and Assurance Services
- Information Systems Assurance and Advisory Services
- Business Risk Consulting
- Tax
- Corporate Finance.
- Corporate Recovery

Following a major change program started in the early 1990s<sup>3</sup> by Nick Land, the UK Managing Partner, most professional staff are grouped by industry specialism in addition to the service line (e.g., Business Risk Consulting or Tax). The industry groups are listed in Appendix 1. E&Y is experiencing substantial growth. Fee income for the UK in their financial year ending in 1998 was €1 billion (increased by 19% from 1997). Nonetheless, the firm faces strong competition in the UK. It is, in fee income terms, the third of the five major professional services firms present in the UK (with PricewaterhouseCoopers, KPMG, Arthur Andersen, and Deloitte & Touche).

Professional services firms operate in a fast moving environment. Competition between large players is intense. In specific service activities such as transaction based auditing and to an extent corporate tax, offering the lowest price for the service can play a role in winning the business. In other areas such as management consultancy, price is less important than in basic services, but quality of service is essential. Some of these service areas where service quality is an essential differentiator, such as information systems and management consultancy, are also more vulnerable to many niche players (including some fast growing new entrants). Customer retention and ability to cross-sell are essential to maintaining E&Y's competitive position.

As he walked briskly to the lift, Tim Curry thought about how much had actually been achieved since people first started to talk about knowledge management at the firm. Knowledge management only arrived formally at E&Y UK in 1996 when it was put on the corporate map with his appointment as Chief Knowledge Officer for the UK (the firm started to implement KM in the U.S. in 1993 under the U.S. CKO, John Peetz). Continued commitment to KM has since grown and the company now prides itself in its ability to manage knowledge. The company's 1998 annual report<sup>4</sup> quoted being "*Knowledge Rich*" as one of its four value principles, and describes on the second page of the report:

*Ideas, insight and best practice are key elements in helping our clients gain competitive advantage. Our aim is to fully capture all the expertise and experiences of our people and combine these qualities with extensive external data together with our own significant global research. We then share the resulting knowledge throughout our organization in order to make a real difference to our clients' success.*

KM is on the corporate strategy card at E&Y. Nick Land, E&Y's Senior Partner (CEO), argues:

*Our competitive advantage is harnessing the skills and talents of all our people better than our competitors can or will—learning faster and sharing more.*

E&Y's use of knowledge management is widely recognized as best practice in the industry although most firms now claim to have a knowledge management system in place.

## 2. BUSINESS PROCESSES TO BE SUPPORTED

Professional services firms tend to have complex business processes that are often tailored on an *ad hoc* basis. They are by nature a people based business, whose products are intimately linked with the skills and knowledge of the staff delivering the service. The processes involved will depend greatly on the practice concerned. The range of products and services by E&Y is quite varied, extending from IT enabled reengineering through to fraud investigation. All services involve varying degrees of customization.

Typically, professional services firms gain business as a result of:

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<sup>3</sup>S. Graff and J. J. Gabarro, "The Transformation of Ernst & Young UK," Harvard Business School Case Study No. 9-498-049, 1996.

<sup>4</sup>As a partnership with unlimited liability, E&Y UK is not required to produce annual financial statements but, along with KPMG, has voluntarily produced an annual report since 1996.

- (1) winning over competitors in a competitive bidding situation;
- (2) direct approaches from new clients;
- (3) direct approaches from existing clients;
- (4) on-going relationships such as long term auditing arrangements.

The ability to project the firm's capabilities as well as brand name are seen as critical success factors in winning the business.

Once the business has been won, the activities necessary for the completion of an assignment will vary, but typically involve:

- Understanding (and sometimes helping shape) a client's requirements
- Propose potential solutions
- Execution (involving detailed design and implementation if required)

All phases of these processes require a broad range of expertise. This can range from specialist technical knowledge about how to work around an inflexible feature of an ERP (Enterprise Resource Planning) package though to intimate knowledge about market trends in a specialist industrial sector. For example, Alan Taylor, Knowledge Manager, discussing one output of the knowledge, argues:

*We use knowledge to ensure that our staff are instantly aware of what is happening in today's rapidly changing economic and regulatory environment. We help them become experts in their field so that they can help their clients identify and solve the most pressing business issues.*

In addition to the need to support a wide range of knowledge needs, there is also a need for knowledge to be accessible off-site. E&Y professionals are highly mobile, and up to 90% of them are offsite at any one time.

As summarized by Adrian del Maestro, Senior Manager looking after the requirements of the E&Y UK Energy Services Group

*Knowledge Management needs to support three key business objectives:*

- *Speed: Acquire insight in Burgess Hill today; apply it in New Delhi tomorrow*
- *Connectivity: Connected professionals, any time, any place, anywhere*
- *Going beyond the intranet: You rarely find wisdom or even insight in an intranet*

### **3. THE E&Y KNOWLEDGE MANAGEMENT INFRASTRUCTURE**

#### **3.1 Overall Organization**

E&Y has put in place a central service responsible for internal knowledge management, the Center for Business Knowledge (CBK). The center was originally modeled, together with CBKs in Toronto, Paris and Sydney on the Cleveland CBK. It was given an official status in 1996 as the *knowledge team* under the responsibility of Tim Curry. The center is in charge of:

- Strategic analysis at both industry and company level.
- The knowledge infrastructure. This involves designing tools, processes, and principles for knowledge sharing throughout the organization.
- Specialist research services, offered to the rest of the firm on a cost recovery basis. These services are delivered through a business research team and a strategy analysis team. These teams carry out in-depth, focused analysis on demand.

The CBK headcount grew by 30% between the middle of 1998 and the beginning of 2000. An outline organizational diagram is shown in Appendix 4.

The firm's approach to KM is, therefore, fairly centralized. E&Y thinks the centralized approach is necessary to ensure adequate coordination of the knowledge efforts of the firm, develop and apply common standards, and ensure best practice. This is, however, where the central role of CBK stops. In other words, while the management of the knowledge is supported centrally, knowledge itself is decentralized. A key feature of KM at E&Y is the building of knowledge networks across the firm. Knowledge networks are virtual groups of people who participate in a particular industry, process, or discipline. As often pointed out by CBK managers, the Center's role with regard to these networks can and should only be one of coordination.

### 3.2 Electronic Resources

The main “home” for knowledge at E&Y is called the Knowledge Web (KWeb). The KWeb is essentially a gateway to:

- In excess of 1,000,000 documents—a number which is growing on a daily basis.
- 5,000 internal Lotus Notes Databases, of which 8% to 10% are full knowledge bases (the others being workflow or administration databases).
- External content, such as Reuters Business Briefing, Gartner Group research, Forrester, OneSource, company financial databases, etc.

Knowledge bases are collections of knowledge grouped together with the objective of making retrieval, content acquisition, and management easy. Ownership of the knowledge base is always clearly identified. Knowledge bases are organized following guidelines that ensure a standard scheme for the logical grouping of the content and the organization of the data.

External content is seen by E&Y as an important aspect of their knowledge management infrastructure. As described by Julian Hope, E&Y European Director of Business Research, at the Online '98 conference:

*Sitting on the “external content” side of the house, I occasionally wonder whether I’m the “poor relation.” The vast majority of Ernst & Young’s \$100m/a year or so investment in knowledge management is directed at acquiring, storing, adding value to and deploying the intellectual capital of the firm’s professionals—the firm’s internal knowledge content. External content is introduced to enrich this, to refresh it and to add insight and ideas that we don’t possess ourselves. But what’s the right balance, the most effective blend of internal and external content? A fascinating question.*

Access to knowledge can be gained through two main routes:

- A knowledge catalog that provides a navigation framework. The look and feel of the catalog is similar to that of Yahoo! (<http://www.yahoo.com>).
- A full text search engine, with which the users can carry out searches of all documents and attachments. The search engine was chosen for its advanced search capabilities and its scalability. An important feature of the search engine chosen was also its easy connectivity with Lotus Notes, which already operated as E&Y’s GroupWare platform.

The infrastructure in place to support KM at E&Y is constantly evolving. An important innovation is the use of PowerPacks (see Appendix 2).

PowerPacks are technically standard knowledge bases, but are specifically tailored to be portable. Limited in size to about 50Mbs, they can be easily replicated on laptops. The whole PowerPack can be replicated quickly, and regular updates then only take a few minutes, even over a slow modem connection. All PowerPacks share the same standard design and structure but the content is specific to service lines or industries.

Specific knowledge bases can also be built for large client engagements. Known as ETD (Engagement Team Databases), they act as a central repository of information for large projects. This helps the sharing of information between E&Y staff without the need for formal meetings, and helps new staff familiarize themselves as they start on the project.

The technologists in the CBK have designed “Community Home Spaces” (CHS). These constitute an intermediate layer between the user and the knowledge bases and external content that might be relevant to them. CHS constitute an intranet space for communities that share similar interests. This is done through links to relevant knowledge bases and knowledge sources that have been selected especially for the community.

These constantly evolving interfaces are making the knowledge management process easier, according to Shirley Jackson, senior manager in the CBK, but they also have a drawback: the air-time challenge. Every time the CBK puts an innovation in place, it needs to be communicated to the rest of the firm, and that can be difficult, argues Jackson. There are also practical control issues that need to be addressed according to Jackson. For instance although PowerPacks are generally seen as very useful sources of knowledge, the CBK has come to the conclusion that their proliferation could lead to difficulties. In particular, it can be difficult to locate information that is spread across too many PowerPacks.

## 4. MANAGING THE KNOWLEDGE PROCESS

### 4.1 Key Roles: People and Culture

The knowledge management processes at E&Y are embedded in key roles that have been assigned throughout the business. These are described in Table 1.

**Table 1. Key KM Roles**

Role	Activities
Business Unit Knowledge Manager Knowledge Network Managers	Knowledge managers have been appointed in almost all business units at E&Y. Their role is to ensure that KM (including content collection and development) takes place in their business unit. Knowledge Managers have an important role in ensuring that KM fits in with the strategic direction of the business unit to which they belong.
Network Chairs	Generally E&Y Partners or Senior Managers, they facilitate the knowledge management process. Often described internally as being in charge of converting “hearts and minds” to KM.
Assignment Knowledge Managers	On larger assignments, a professional is usually assigned a KM role. This involves two key distinct responsibilities. First, they are responsible for the knowledge process on the assignment and, second, they ensure that the knowledge generated on the assignment is harnessed.
Subject Matter Specialist	Subject Matter Specialists are E&Y professionals that have particular expertise in an industry, process, or discipline.

These roles are designed to facilitate the networking process. As argued by Séan Ryan:

*It’s all about networks. We call them COINs (Communities Of Interests Networks). This networking is necessary to identify hot topics, populate PowerPacks with good ideas, assemble knowledge for ease of use, filter knowledge and hopefully transfer tacit knowledge.*

According to Janice Reid, Knowledge Manager in the Consumer Product industry group, the allocation of responsibilities ensures that knowledge management work is distributed to everyone, but clearly this can only work if the right knowledge sharing culture is in place.

There is no pecuniary recognition for sharing knowledge, but all professional staff, “fee earners,” are expected embrace knowledge. Annual appraisals contain a section on knowledge sharing.

Building a knowledge sharing culture takes time, though. A senior manager at the CBK carried out research internally, and suggests that the evidence shows that E&Y are starting to win the battle of developing a true knowledge sharing culture. The key question, he argues, is “if you were the best consultant in the firm but didn’t share knowledge, what would happen.... Would you be allowed to continue?” Changing attitudes has to an extent been made easier by an already open culture in the firm, but the CBK’s own research suggests that there is still some way to go, particularly in making sure that the Human Resources processes are aligned with the knowledge sharing strategy.

### 4.2 Submission Process

A key aspect of E&Y’s KM processes is the way knowledge is added to the knowledge bases. This is done through a submission process, introduced in 1997. Each submission is reviewed by either (1) the Knowledge Manager (of the business unit, network, or assignment) or (2) a Subject Matter Expert. The process is sometimes bypassed when groups focus on building knowledge quantity, particularly in the early stages of the life of a knowledge base.

Submissions accepted into a knowledge base are reviewed regularly by the central team based at the CBK and network managers. The objective is to ensure the widest possible diffusion by nominating the submission for inclusion elsewhere. This, in turn, ensures that best practice is transmitted to other practices or industry groups. When received by other groups, further nominations may be carried out.

In 1999, a technically streamlined submission process was introduced. Although simple in technical terms, the innovation has made the submission process more natural. It consists of a folder in employee mailboxes. When a contribution is written, it can simply be “dragged and dropped” in the mailbox folder. It is then channeled forward automatically the next time the computer is connected to the network.

### **4.3 KM Principles**

In 1997, the CBK produced a booklet entitled *Delivering Value Through Knowledge*. The booklet sets out, for internal readers, the firm’s vision for KM. Five knowledge principles are given:

- Delivering value
- Sharing knowledge
- Protecting the firm’s property
- Confidentiality
- Other people’s intellectual property

These principles firmly ground any knowledge management efforts into the objective of enhanced competitive advantage. They also acknowledge that certain ground rules need to be adhered to in order to ensure the business ethics of the processes in place. Copyright agreements with all suppliers are widely published.

## **5. TRANSLATING KNOWLEDGE MANAGEMENT INTO COMPETITIVE ADVANTAGE**

### **5.1 Delivering Value**

Delivering value is a key objective of the knowledge management effort at E&Y, but staff in the CBK admit that showing evidence for this is very difficult. Yet it is the key to maintaining the momentum, both financially and culturally. Financially, partners need to be convinced that resources (people, time, money, purchase of external content) need to be committed to the KM efforts. In the first stages of implementation, for instance, the roll-out of the full text search engine was put on hold for a while. This was partly due to budgetary constraints, essentially brought about by the need for benefits to be demonstrated before further funds were committed. Demonstrating value is also seen as an important building stone of the knowledge sharing culture. Being involved in the knowledge process takes time and effort at all levels, and this has to be justified, and justifiable. The firm and, therefore, the business units need to keep funding the effort, and individuals need to share and use knowledge. It is an onerous process at all levels.

The CBK staff are now bullish about demonstrating the benefits of KM. Séan Ryan, explains what indicators are used:

*We have value measures in place that look at what the client perceives the value or the engagement has been. Feedback from the client is the real measure. We also measure whether more business has been gained.*

*Another source of information we use is a monthly survey, distributed to 250 randomly selected professionals in the firm. Average response rates are in the region of 60% to 70%, which isn’t bad. This specifically looks at what the users think of the KM process and the KM tools.*

Usage is also closely monitored, and statistics are available to the CBK showing database hits and the source of the requests.

## 5.2 Alignment with Business Strategy

Séan Ryan sees a major role for the CBK in ensuring that KM strategy remains aligned with the firm's business strategy as well as the strategy of individual business units. All business units are different. Knowledge needs to be generated, filtered, organized and distributed. While most business units are very good at generating content, they sometimes need help to develop a knowledge strategy, although as argued at senior level in the CBK

*Strategy, and knowledge strategy, is a word that means different things to different people. But debate is always healthy!*

This wide variety of approaches sometimes creates difficulties of alignment between the overall business strategy and the knowledge strategy. While there seems to be no doubt that there is commitment at the top, there are sometimes differences of opinion about what KM actually means, or what it represents.

## 6. THE ROAD AHEAD

Most UK business units now have a KM infrastructure in place. It took most of them between one and two years to reach that stage. A challenge for the firm is now to ensure that these efforts translate into business benefits. According to Séan Ryan, this means,

*for the firm as a whole, getting the principle embedded into the vision and the culture. This means maintaining the momentum, constantly review our content, keep a good alignment with strategy, ensure that KM gets embedded more deeply into the sales process and also the client engagement process.*

The challenge of winning the hearts of the users never ends. The firm has created a knowledge sharing culture, but it needs to be nurtured. Maintaining the momentum means continuing to demonstrate business benefits. It also means that the knowledge process has to be seen as useful and simple to use. It is also important that people don't feel overwhelmed by the system. The CBK is aware that this means treading on a thin line.

The simplification of the knowledge process is therefore clearly on the road map, according to Julian Hope:

*We need to move beyond knowledge pull into knowledge push. This means that people need to be profiled a lot better, and we will need to be more aware of their individual knowledge needs. We now have the technology to help us do that and provide better filtering to match individuals' needs. In the early days, we collected as much as we could and built tools to help us retrieve information. We then put in place portals to knowledge for groups of people we thought had the same kind of interests. What we now need is almost individual portals.*

As he left his meeting, Tim Curry went back to his desk to think about the press release. What did E&Y do well in the way it managed its knowledge? He looked at the notes he made earlier, and quickly checked the criteria that were used to rank E&Y against other organizations:

- Success in establishing an enterprise knowledge culture
- Top management support for managing knowledge
- Ability to develop and deliver knowledge-based goods and services
- Success in maximizing the value of the enterprise's intellectual capital
- Effectiveness in creating an environment of knowledge sharing
- Success in establishing a culture of continuous learning
- Effectiveness of managing customer knowledge to increase loyalty and value
- Ability to manage knowledge to generate value

He was confident that the firm would continue to score highly on those criteria in the future, but also realized that there were significant challenges ahead.

Globalization was one of them. In January 2000, E&Y made the decision formally to globalize its knowledge management efforts (he was now the head of Global Knowledge Management).

*We've globalized because that's what our customers in E&Y tell us they want. Global reach, common standards, consistent processes, greater specialization and the economies of scale that come from doing things together. But, with globalization we'll need to think really hard about how to stay close to the customer and*

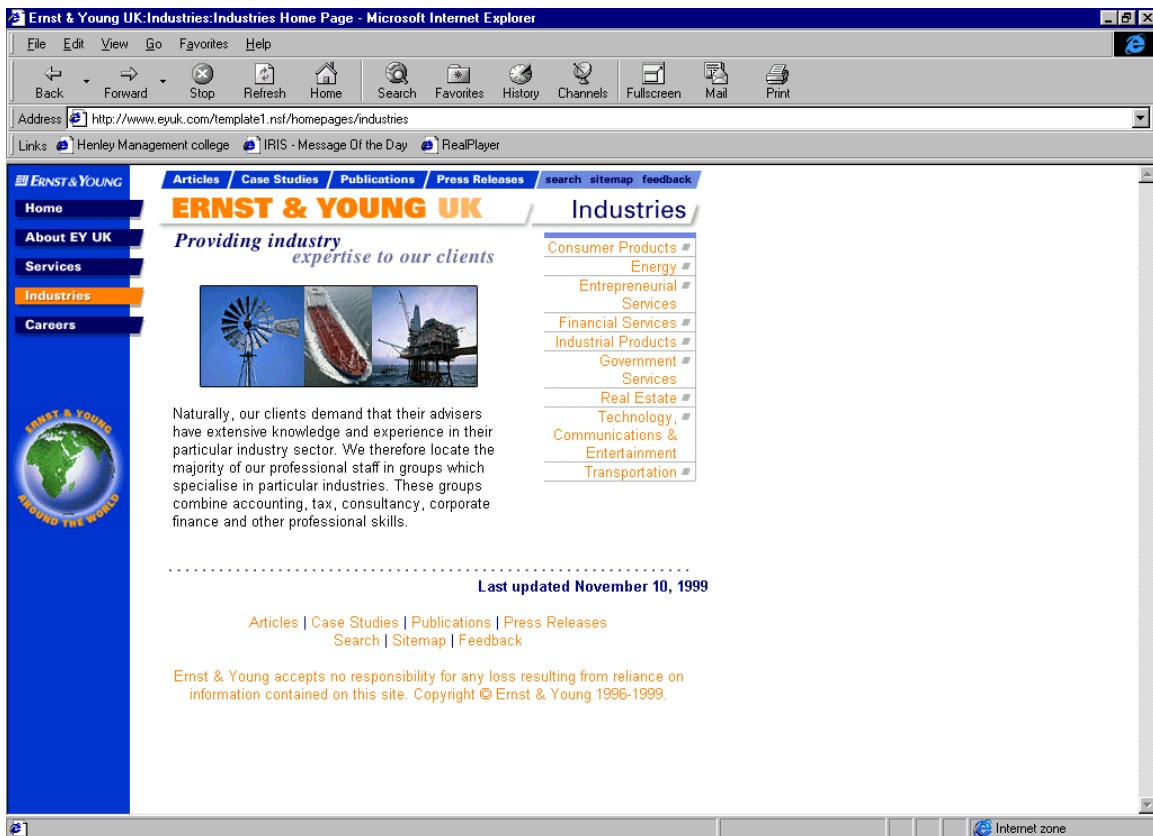
*about how we balance consistency with speed and the need to cater for the linguistic and cultural differences that exist in an organization such as ours. At the moment, we know the processes work fairly well. We see that people use our infrastructure, participate in COINs and, generally, tell us that they are getting value but we can't rest on our laurels. We always need better content and in spite of the increasing sophistication of our retrieval systems, knowledge overload remains a real problem. We need better navigation, more filtering and the ability to push content "in context" to users—otherwise the system will become unmanageable.*

*At the same time, we also need to expand the base of our knowledge systems—extranet links with some of our clients, for instance. This raises a whole host of complex business and technical issues and, if we're not careful, we'll get distracted from our real role—to drive professional productivity in Ernst & Young.*

## Acknowledgments

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# Appendix 1. Industry Expertise



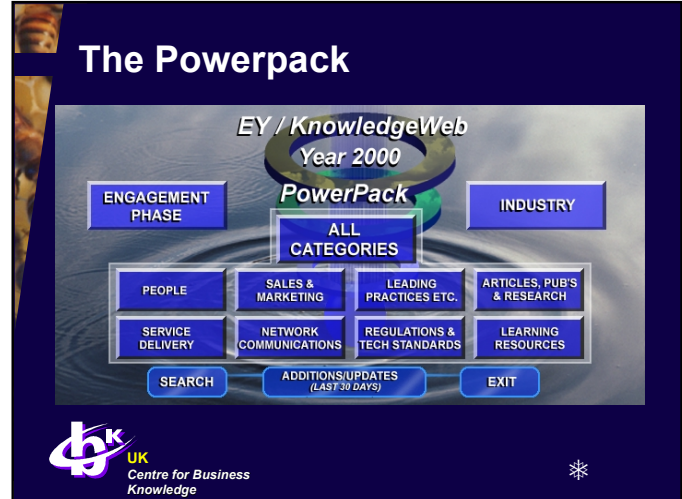
Source: www.eyuk.com visited on 03/03/2000



## Appendix 2. The PowerPack

The generic structure of a PowerPack is:

- Network Communications, made up of industry news and events details
- Sales and Marketing Material, comprising brochures, presentations, proposals, credentials, client and competitor information
- Service Delivery, made up of exemplary client deliverables, tools and methodologies, internal best practices and war stories
- People—CVs and skills
- Process Models, Benchmarks and Leading Practices—such as external practices, processes and performance measures
- Regulations and Technical Standards, which are industry specific regulations and standards
- E&Y Articles, Publications & Research, such as published articles, speeches, white papers, and position statements
- Learning Resources, which are training materials and external reference material



Document Title	Date	Author
★ <b>Articles and Publications and Research</b>		
★ <b>Learning Resources</b>		
★ <b>Course Descriptions</b>		
★ <a href="#">KWeb v5.0 Courseware/Lesson plan - October 1999</a>	Oct 1999	Bridgette Di Ferdir
★ <a href="#">KWeb v5.0 Deployment Pack - October 1999</a>	Oct 1999	Bridgette Di Ferdir
★ <a href="#">Monthly Tours of the CBK</a>	Nov 1999	Lilian Wyant
★ <a href="#">New Joiner Welcome Kit for Knowledge Officers</a>	Nov 1999	Iona Brode
★ <a href="#">Upcoming External Knowledge Management Conferences</a>	Sep 1999	Lilian Wyant
★ <b>Training Materials</b>		
★ <b>User Guides</b>		
★ <b>Network Communications</b>		
★ <b>People</b>		
★ <b>Process Models and Benchmarks and Leading Practices</b>		
★ <b>Regulations and Technical Standards</b>		
★ <b>Sales and Marketing Material</b>		
★ <b>Service Delivery</b>		

## Appendix 3

	Headcount (end 1999)	Turnover/Gross fees (1998) <sup>a</sup> in €m	Turnover/Gross fees (1999) in € m
PwC <sup>b</sup>	16,000	Not available	Not available
KPMG UK <sup>c</sup>	10,520	2,539.6	2,003.6
E&Y UK <sup>d</sup>	7,770	1,163.2	1,032.6
Deloitte & Touche <sup>e</sup>	7,000	1,115.3	918.9
Arthur Andersen <sup>f</sup>	6,500		758.7

<sup>a</sup>When reported in Pounds Stirling, figures converted on the basis of £ 1 = €1.631.

<sup>b</sup>Source: PricewaterhouseCoopers UK Factsheet, 1999.

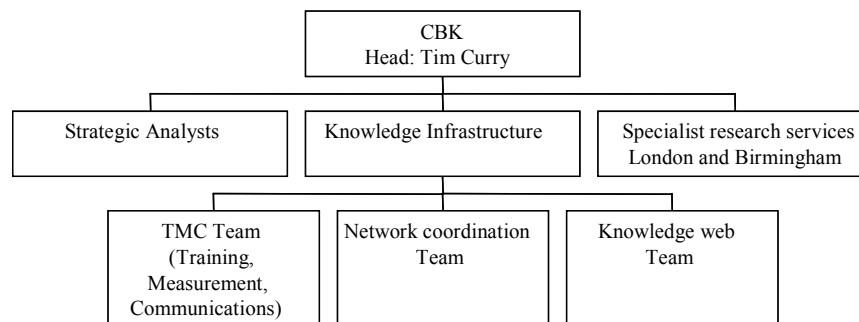
<sup>c</sup>Source: 1999 Annual Report.

<sup>d</sup>Source: 1999 Annual Report. The 1999 revenue attributable to the management consultancy activities sold to Cap Gemini in 2000 was €m 280.25.

<sup>e</sup>Source: [www.deloitte.co.uk](http://www.deloitte.co.uk) visited on 5/3/2000.

<sup>f</sup>Source: [www.arthurandersen.co.uk](http://www.arthurandersen.co.uk) visited on 5/3/2000. UK only figures not given in global annual report.

## Appendix 4



# KNOWLEDGE MANAGEMENT AT ERNST & YOUNG UK: GETTING VALUE THROUGH KNOWLEDGE FLOWS

## Teaching Note

### 1. INTRODUCTION

Knowledge management (KM) has emerged as an important driver of competitiveness in professional services firms. By their very nature, professional services firms are knowledge intensive throughout their business cycle. Typically, these firms rely heavily on knowledge to win new business, to design and deliver the services sold, and to maintain on-going client relationships. Not surprisingly, therefore, professional services firms have been among the earliest adopters of KM technology.

This case study is designed to help explore the issues connected with KM, in the context of a typical business school MIS course.

- What is KM?
- What are the benefits from KM?
- What are the key enablers of KM, including the relationship between people, organizations, and technology?
- What is managing the strategic impact of information systems?

The case was researched over a period of eight months, through unstructured interviews, structured interviews, and analysis of secondary data.

### 2. CASE BACKGROUND

It is often worthwhile spending a little time discussing the circumstances surrounding the case before students are asked to discuss the case in detail. This is all the more important here as professional services firms such as E&Y can be a little mysterious in what they do. In particular, both the input and output of E&Y's processes are knowledge. A simple discussion based on "input/process/output" can quickly ensure that the class is familiar with the background. This can be wrapped up using a definition of professional services firms by Nachum (1999):

*The production processes of these services are based on manipulation and application of this knowledge by highly educated employees to provide a one-time solution to specific clients' problems.*

It can also be useful at this stage to briefly review the competitive position of E&Y UK, and some of the CSFs of E&Y UK. This includes:

- Quality of service
- Customer retention
- Ability to cross-sell

### 3. WHAT IS KM (AND WHAT IS KNOWLEDGE)?

#### 3.1 *What is Knowledge Management*

Fahey and Prusak (1998) argue that the first error in KM is "not to develop a working definition of knowledge," and it is useful to ask participants the basic question, "What is KM?" as a way of exploring what issues need to be addressed when exploring the case further. The discussion can be started by asking the participants whether, having read the case, they agree with the definition of KM given by Ruggles (1998).

*Knowledge management is an approach to adding or creating value by more actively leveraging the know-how, experience, and judgement resident within and, in many cases, outside an organization.*

The discussion can be structured using a three column matrix on the board, breaking down answers under three categories: people, organization (and process), and technology, as shown in Table 1.

**Table 1. What is Knowledge Management?**

People	Organization/Process	Technology

The aim of this exercise is to show that, in the context of E&Y UK, knowledge management is a broad concept. Once some ideas have been captured under each of the three headings, it is possible to begin exploring *what knowledge actually is*. It may seem paradoxical to start by discussing knowledge management before discussing knowledge, but this can be useful for two reasons:

- Knowledge is context dependant, and it can be useful to wait until some of the issues have started to emerge under Table 1 to ask this fundamental question.
- Practically, it can help focus participants' thinking and, therefore, avoid long discussions of a philosophical nature about knowledge

### 3.2 What is Knowledge?

A useful traditional MIS tools that can be used to explore the question is Burnstine's Customer Resource Life Cycle (CRLC) (Ives and Learmonth 1984). When using the CRLC, it is useful to ask participants to think about how customers select a professional services firm. The case provides enough information for the cycle shown in Table 2 to be built. If the class is familiar with the CRLC, this can be done with two groups of participants, each taking a different point of view, namely E&Y's and that of the customer. If the class has never been introduced to the CRLC, it can be worthwhile to prompt answers in the second column of the table, while leaving the class to identify the knowledge needs from the case (third column). This exercise is useful as the case tends to focus on the E&Y view of what is needed, rather than what knowledge gives E&Y an advantage, and at what stage. It is also interesting to identify the role clients play in professional services firms. Clients are *active participants* in the service, and in the context of E&Y UK, any working definition of knowledge needs to capture their involvement.

**Table 2. Customer Resource Life Cycle Applied to E&Y UK**

CRLC	Steps undertaken by the customer	E&Y UK Knowledge Needs
Requirements	Identify the need to employ a professional services firm (PSF)	
	Specify work to be undertaken and allocate resources	
Acquisition	Call for tender	
	Evaluate tenders	
	Select PSF	
	Draw up contract	
Stewardship	Communicate with consultants	
	Manage the assignment	
	Review the project	
Retirement	Evaluate work	
	Check Bills	
	Assess the need for further work	

At this stage, it is possible to introduce (or remind participants of) Nonaka’s definitions of *tacit* and *explicit* knowledge (Nonaka 1994), and ask participants to revisit the third column of Table 2 and classify the knowledge needs as explicit or tacit. This will be useful when looking at the suitability of the supporting technology and processes.

## 4. SUPPORTING IT

### 4.1 Structure vs. Infrastructure

The supporting technology can be looked at through a simple question:

*Does the technology provide adequate support for the KM needs at E&Y UK?*

The exercise can be structured using Table 2 again. Each knowledge need can be mapped to supporting technology, and this can help identify areas where good support is provided (such as the delivery of the service through PowerPacks and Engagement Team databases) and areas where no tools seem to be in place (such as project evaluation). Appendix 2 in the case study can be used here, as the structure of the PowerPack described maps clearly onto the Requirements, Acquisition, and Stewardship phases of the CRLC.

In looking at whether the technology is adequate, some participants may take the view that it seems to be lagging behind the needs of the company and in particular the risk of proliferation of knowledge sources. Much effort seems to be on-going to simplify the technology. Participants may point towards:

- The “user friendly” nature of the PowerPacks
- The knowledge catalog
- Community Home Spaces

It is interesting to point out that many of the changes and on-going technical improvements described in the case are not concerned so much with the *infrastructure* per se, but rather seem to focus on finding better ways to *structure* knowledge and its retrieval. Suitable infrastructures seem to be in place, but the structure of the knowledge repositories needs to be improved.

### 4.2 Technology and Tacit Knowledge

A more traditional MIS answer to identifying suitable IT support would be to use a tool such as Edwards et al.’s formality/routine map (1995). A short debate about whether it is applicable in the case of KM rather than information management is interesting. Some participants may argue that knowledge (whether tacit or explicit) is informal, and that its management is a non-routine activity. The case is, however, not so clear cut, and clearly indicates a degree of routine management of the knowledge. This could also take the debate back a step about what knowledge, and knowledge management, actually are.

It has been suggested that two different IT strategies emerged to support KM depending on the competitive strategy of the organization (Hansen et al. 1999). While some organizations rely on a *codification* strategy that seeks to make knowledge independent of individuals, others rely on a *personalization* strategy that emphasizes the channeling of individual expertise to the right place at the right time. Strategies based on codification are often heavily supported by database technology whereas personalization strategies are often only moderately supported by technology with a greater emphasis on building relationships. At this point, it can be useful to draw two columns on the board, as shown in Table 3, to emphasize the different characterizations of Knowledge that have been discussed so far, and ask which applies to the E&Y UK.

**Table 3. Different Characterizations of Knowledge**

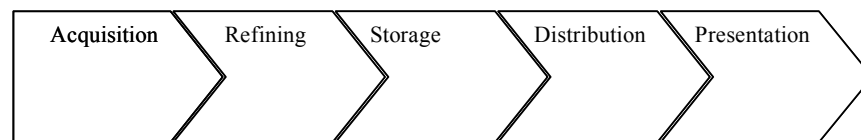
Tacit	Explicit
Informal	Formal
Personalization	Codification

Initial comments are likely to be that an effort is being made by the organization to codify and formalize knowledge, and make it as explicit as possible. This is the view that Hansen et al. have of E&Y.

There is, however, evidence in the case that the picture isn't as clear cut as it first appears. In particular, there seem to be mechanisms in place that recognize the need for an element of personalization. This includes Subject Matter Experts and COINs. As pointed out by del Maestro in the case, "*you rarely find wisdom in an intranet.*"

## 5. THE KNOWLEDGE PROCESS

In his article about knowledge management in the consulting industry, Sarvary (1999) argues that "*when evaluating KM system's potential for building competitive advantage, one should also evaluate the ways in which it will be used by the members of the organization.*" Although the case does not describe the knowledge process explicitly, it is possible to infer from the description of the various roles, the description of the submission process, and the description of the infrastructure that the process follows a fairly standard path, such as that described by Zack (1999) (see Figure 1).



**Figure 1. Knowledge Process Path**

Key issues that can be debated around this process include:

- *How well is each phase likely to work, based on the information provided in the case about the mechanisms, technology and roles in place?*
- *How would you assess how well each phase of the process is performing?*

An important aspect of any KM process is, of course, whether knowledge is actually used (and acted upon). Any discussion about the evaluation of the process will, therefore, need to address what comes after the presentation phase of the process shown in Figure 1. The case gives evidence that knowledge is actually used. Although no direct user experience is related, it is clear from the case that processes are in place, and the importance attached to issues of alignment and value demonstration indicate that were the knowledge not used, this would emerge (although some students might find that this is open to debate). Measurements that are taken tend to focus on one end of the process or the other.

## 6. CULTURE

As Leidner (1999) points out, "*In understanding the potential impact of KMS on organizations, it is first necessary to understand the cultural implications of such systems.*"

An interesting question that can be asked is:

***What is the difference between an information management initiative and a knowledge management initiative?***

This can be structured using models of information systems with which students are familiar, such as Laudon and Laudon's people/organization/technology model (1998). The aim is to emphasize the importance of culture in KM initiatives. Culture is widely acknowledged as one of the key enablers of KM initiatives, which differ from most information management projects because of the difficulties associated with managing human factors (Davenport et al. 1998). This is identified in the case by issues such as:

- The air-time challenge
- Need for central coordination
- Difficulties in developing a knowledge strategy
- What would happen if the best consultant in the firm wasn't sharing knowledge
- Knowledge quantity vs. knowledge quality

At this point, an interesting debate can be prompted by asking participants to build a sand cone pyramid showing which of aspects of knowledge management need to be in place before others, as illustrated in Figure 2. Getting a knowledge culture in place is perhaps the most important aspect of any KM initiative, and without this sandcone would fall. This has to be followed by the right processes around knowledge to ensure that it is structured appropriately. Only once these two elements are in place, it is worthwhile thinking about the information management infrastructure and the technology. As argued by McDermot (1999), “*The great trap in knowledge management is using information management tools and concepts to design knowledge management systems.*”

## 7. GOING GLOBAL

The key challenge now facing E&Y is the globalization of its KM efforts. This can be addressed by a fairly general question:

*Where should E&Y direct its efforts to ensure that globalization is a success?*

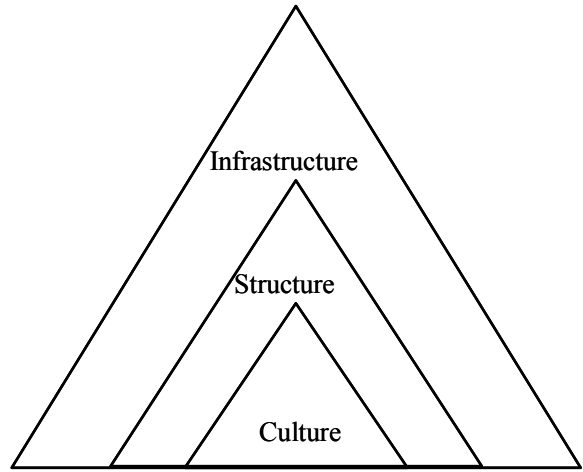
The final section of the case identifies issues that need to be addressed. These include:

- Culture: nurturing the knowledge culture, embedding KM in the client engagement process
- Structure: filtering to prevent information overload
- Infrastructure: extending KM.

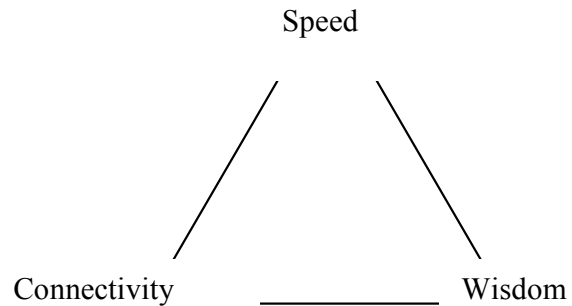
It is also interesting to ask a more focused question at this stage:

*How is the globalization of KM at E&Y going to impact the firm’s competitive position?*

Although the case does not give the reasons behind the decision to go global, it will clearly support two key objectives: speed and connectivity. Are these two objectives, however, in conflict with the third objective quoted by del Maestro: going beyond the intranet (see Figure 3). The risk is perhaps that going global could require even more codification than is currently in place, to the detriment of the processes that rely on personalization.



**Figure 2. The Knowledge Management Sandcone**



**Figure 3. The (Conflicting?) Objectives of KM**

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