Valuing Knowledge Management in Organizations, from theory to practice: the case of Lafarge Group

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Abstract

This article examines the work of a Knowledge Manager according to the strategy implemented at Lafarge, the global leader in construction materials. The aim is to show how a global company uses a knowledge management strategy to create value for stakeholders, provide a local access to know-how, offer tools for actionable decision making and builds a knowledge sharing culture among divisions. It also tries to fill the gap between the formal strategy and the existing practice of the Corporate Knowledge Manager. At the end, it studies how the manager can quantify the value brought by its action.

Keywords: Knowledge Management, knowledge sharing, Knowledge Manager, Strategy, Lafarge

1 Introduction

"The goal of a Knowledge Manager? To succeed in putting in place a knowledge sharing culture that works without the need of a formal post of Knowledge Manager in the organization. Knowledge Sharing is a behaviour that needs to be a natural part of the working style and culture of an organization. Once this is achieved knowledge sharing touches all parts of the organization and every function. Its pervasiveness will result in something that can not be managed but rather is part of the culture and management style of the company". This statement made by the Corporate Knowledge Manager of the world leader in building materials, Lafarge Group, illustrates the paradox of the knowledge management field: valuing intangible relationships between people in order to create value for the whole organization.

The development of Knowledge Management (KM) as a distinct area has been historically influenced by research undertaken across a broad range of disciplines. These disciplines include sociology, psychology, and philosophy. Since the early 1990s, research in the knowledge management area has been extended through contiguous areas including change management, leadership development, systems theory, organization theory, organizational development, organizational learning and artificial intelligence. The Knowledge Based View (KBV) of the firm has been exposed in a number of articles this last decade. The main learning from this flourish of papers is that knowledge is recognized as a vital source of competitive advantage. The competitive advantage depends on the firm's ability to continuously configure and integrate knowledge into value-creating strategies: the key for efficiency is not "simply" knowledge creation or knowledge transfer, but it is to achieve effective knowledge integration. This integration needs cooperation, but depends on coordination between individuals and knowledge they retained. The firm must manage the integration of discontinuous types of knowledge into a coherent organizational view (Spender, 1996). Meanwhile, some authors look at the role of information technology in knowledge sharing through the lens of communication theories. The role of Information Technology in knowledge sharing processes has been also heralded by several authors. For example, Orlikowski and Yates (1994) analyzed how a community of

artificial intelligence researchers developed communication structures that enabled them to do their work.

In the KBV of the firm, knowledge is recognized as a vital source of competitive advantage and the firm's ability to deal efficiently with its own knowledge is a primary source to create value and to develop the organization (Grant, 2000; Spender, 1996). According to this academic field, leveraging knowledge leads to knowledge management strategies but also to intellectual capital management.

2 Issues

2.1 The role of the Knowledge Manager

Our case study is based on the experience of a Knowledge Manager in a global company. The main role of the Knowledge Manager or Chief Knowledge Officer (CKO) is the responsibility for developing and implementing a knowledge sharing program. Following the Earl and Scott study (1999), "*CKOs have two principal design competencies: they are "technologists" and "environmentalists". They encourage and initiate investments in information technology as well as in the social environment*". They must have communication skills to be known in the organizational structure, financial skills to measure efficiently the impact of knowledge management programs or practices, project management abilities to lead complex initiatives. Knowledge Managers (or CKOs) have to define how the firm handles its intellectual assets, which include such elements such as creativity communication ability, analytical skill and intuition. One of the main and most difficult goals is to foster organizational culture to become a learning organization for continuously learning, sharing and creating knowledge. Thus, a CKO has to encourage the cultural part of knowledge management and knowledge creation in order to enhance knowledge coordination and integration. If knowledge is socially constructed or generated, this underlines the role of the CKO to develop social practices such as knowledge networks or communities of practice.

A previous research carried out in 92 firms stresses up that the role of the Knowledge Manager depends on the knowledge management strategy implemented (Rolland, 2004). Following Hansen et al.'s research (1999), firms develop three types of Knowledge Management Strategies (KMS) that nurture three different types of knowledge networks: technological networks (supported by technological strategy), individualized networks (personalization strategy) and social networks (socialization strategy). These Knowledge Management Strategies satisfy three functions: knowledge capitalization, innovation, and improving business process.

Table 1. Typology of Knowledge Management Strategies (KMS)

- **Technological** is also named codification strategy (Hansen et al., 1999) or technocratic school (Earl, 2001) and relies on technology and databases. Individuals have to explicit their knowledge in order to transfer it via the database (Hansen et al., 1999). Knowledge networks are virtual networks and lead to capitalization.
- **Personalization**, which is also named the spatial school (Earl, 2001), is designed for the emergence of knowledge and relies on face-to-face (Hansen et al., 1999). With this strategy, firms focus on tacit knowledge sharing. These personal networks lead to innovation.
- The purpose of the **Socialization** combines both technological and personalisation and relies on communities of practices. People inhabiting the same knowledge space share knowledge and experience in order to improve business processes. Knowledge is often shared with the help of the technology (Wenger, 1998).

Rolland (2004) observed that each Knowledge Management Strategy designs a specific architecture of knowledge networks and has different impacts on organizational development and then, on the maximisation of knowledge creation and its final use. In fact, if knowledge is created in a part of the organizational network, it will not have the same organizational impact according to the knowledge strategy used. Then, firms have to define and draw knowledge roads for enhancing knowledge "traceability" and "transparency" in knowledge networks. The trends showed in the table 2 illustrate the evolution of strategies developed by Knowledge Managers. From a technological strategy, more and more Knowledge Managers are moving to a socialization one. For example, knowledge traceability is quite easy with a technological approach because of the information system management. Knowledge Managers can have access to the information of who use the program, who takes what knowledge or what knowledge is taken by who, etc... Meanwhile, this traceability is difficult when a Knowledge Manager has to detect what knowledge is reused and in which circumstances.

Table 2. The evolution of KMS in firm over the last five years (Rolland, 2004)

Knowledge Management Strategy	1998	2000	2002
Technological	72 %	66 %	33%
Personalization	6 %	8 %	12%
Socialization	12 %	26 %	55%

This previous research also points out that companies are disappointed with technological strategy. They try harder and harder to build and to sustain knowledge networks or learning communities instead of investing in Information Technology. This finding is also consistent with the evolution of the Information Systems strategy regarding to decision support. One of the main goals of IS is to bring decision support to managers: "Information systems should exist only to support decisions" (Gorry, Scott Morton, 1971). The technical approach used to be the "classical strategy" developed in the IS field (Vidal 2000). But as a result "information technologies have been applied with considerable success to the core tasks of organizations, as evidenced by computers systems for on-line reservations, order entry or integrated manufacturing**.** But information technologies have been applied with less success in systems that go beyond these transaction processing tasks to support the cognition and decision making of managers (Feldman and March 1981, Preston 1991, Silver 1991) " (Boland & al. 1994). If decision support was only a technical problem, it would have been solved a long time ago regarding to the recent technical development. This idea written in 1971 by A. Gorry and M.S. Scott Morton en 1971 is still « true » today, 30 years of IT development later. To synthesise the story of computerised IS, it is just as if we restricted the question of IS support to decision making to its single technical dimension. We just tried to imagine how much information we needed to make decisions. Thus, we forgot once again, as Ackoff said 30 years ago, that "we do think that the business decision making in complex situations is not only a technical difficulty but really a socio-technical "mess"" (Ackoff, 1974). The point is not to question the technical dimension of KM projects: can we seriously conduct any KM project today without IT? But we do have to enrich the problem space by not focusing too much on this technical dimension which today is not the problematic dimension really.

That is why many companies (67%) in this study emphasized the importance of relationships for managing knowledge by using a Personalization or a Socialization strategy. With these strategies, the firm maximizes knowledge with a bottom-up approach of social knowledge creation and with self-organized knowledge networks management. Consequently, firms have to ensure that top-managers support these actions and that they are involved in it. The Knowledge Manager also acts as an

internal consultant who supports knowledge management projects. Its role is to avoid silos of information, have a transfunctional view of projects and implement the corporate knowledge management standards. Above all, the Knowledge Manager fosters a culture of collaboration among networks of people, especially unrelated knowledge networks.

The Lafarge case illustrates this trend: from a technological strategy in the initial launch phase of the knowledge sharing project to a socialized one. While knowledge has been documented in the past thanks to a technological strategy, and the barriers to access in the international environment have been removed, the challenge today is to ensure contribution and use of this knowledge to improve business performance. Today, the Knowledge Sharing team is developing a knowledge-sharing culture based on a socialization strategy.

2.2 The choice for a Knowledge Management Strategy

Lafarge Group is the world leader in construction materials based on four business lines: Cement, Aggregates & Concrete, Gypsum and Roofing solutions. Lafarge is one of France's largest corporations in terms of sales. For the fiscal year ended December 31, 2003, the company generated revenues of E13.6 billion.

Lafarge Group has been building knowledge repositories for over 25 years. However, a renewed focus was placed on knowledge sharing in 2001 following the acquisition and post merger integration with Blue Circle Industries, a leading player in the cement market. At that time, the top management of Lafarge Group wanted to facilitate a more effective sharing knowledge between the two entities, Lafarge and Blue Circle, but also between the four divisions (Cement, Aggregates and Concrete, Roofing and Gypsum) with a clear purpose of improving performance through the sharing of best practices and the collaboration with experts. At the beginning of the year 2002, a cross divisional and cross functional knowledge management team was created and Jennifer McGill was appointed as the Corporate Knowledge Manager to coordinate the activities and to launch an inter-divisional strategy. Her team is under the responsibility of the CIO (Chief Information Officer) of the Group and sponsored by the CFO (Chief Financial Officer). The initial strategy was mainly based on ensuring the technological infrastructure for sharing knowledge was in place and a coherent presentation could be made to the end users. The removal of technology as an excuse for sharing of knowledge was essential in order to get to the cultural change.

For Lafarge, Knowledge Sharing is about people, using technology to enable more efficient processes to capture, store, retrieve, use, re-use and share knowledge for the improvement of business performance. The approach assumes that knowledge is captured where it is created, shared by people and finally applied to improve organizational processes in an enterprise. According to her, "*Knowledge Management is about creating a process for knowledge sharing within the organization*. *The process can be managed, enabled and encouraged by management so that at a given moment it becomes an integral part of the daily work of each employee*." This means putting in place structures to ensure that strategic knowledge is shared, people are encouraged to both publish and use this global knowledge to create productivity improvements and that adequate tools are implemented to enable the sharing on a global basis.

The vision for Knowledge Management is to support Lafarge in its efforts to become the undisputed world leader in building materials by:

- Generating value for key stakeholders through the widespread sharing and application of expertise, good and best practices.
- Providing local businesses with a simple way to access knowledge & know-how, find experts and work collaboratively on solutions that leverage and apply the knowledge of the company.

- To provide tools that will analyze our knowledge and turn it into actionable business intelligence to further enable performance improvements for our business and our customers.

3 Organization

3.1 Knowledge Management Organizational Structure

To achieve the goals, the Knowledge Sharing team defined an organization to support the strategy of sharing knowledge in the divisions and the business units. Knowledge Projects are derived from strategic needs at the Group, Divisional and Functional levels and presented to the Steering Committee by the Division and Functional Knowledge Managers for validation. The Steering Committee is made up of operational representatives from the Divisions and Functions as well as the Knowledge Sponsor and the Group Knowledge Manager. The Group Knowledge Manager is responsible for ensuring a consistent vision of Knowledge Management within the group and for defining Group wide standards for tools, support and processes. Acting in a coordination role, the Group Knowledge Manager assists the Knowledge Project Managers with their projects and ensures clear business value and cost benefit is considered for each project. The Division and Functional Knowledge Managers ensure the compliance with the standards, measure and promote the usage of knowledge and collaborative tools within their divisions.

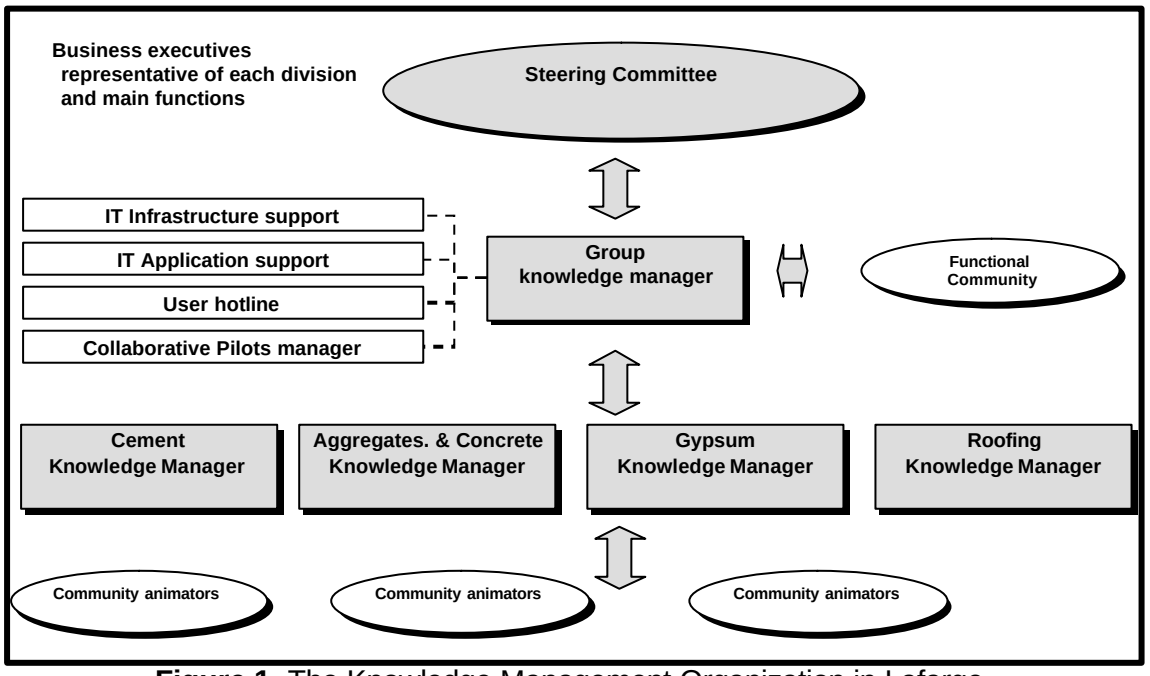

Figure 1. The Knowledge Management Organization in Lafarge

There was a technical infrastructure that needed to be put behind each project. The IT infrastructure support makes sure servers are secure and reliable, and that the network is performing correctly. The IT application support helps contributor's format new databases in a consistent way and to help collaborators use their various applications. The user hotline responds to users' questions and problems regarding IT infrastructure issues. The collaborative Project Manager is a temporary structure set up to support the implementation of collaborative tools.

3.2 Knowledge Management Technological Infrastructure

The standard software for information, knowledge sharing and collaboration are as follows:

- **Basic collaboration** with applications such as messaging, directory, calendar
- **Enterprise portal** to help employees navigate throughout internal and external information systems and sources
- **Knowledge Sharing Databases** with document management and advanced search capabilities enabling broad professional communities to share and access knowledge
- **Advanced Collaboration** including project workspace, workflow management, real time collaboration tools (e-meeting, chat & presence awareness).

Within the recommendations of the portal architecture there are a number of tools that will facilitate ease of navigation and a consistent approach to information and knowledge sharing. These tools provide a standard approach on each portal. They include a navigation bar, a clearly defined standard layout, an approach to content management that will ensure quality and structured information architecture, language policy, confidentiality policy and consistent search.

The technological infrastructure put in place by the Group helped transferring information…but only medium-rich information. In their seminal work Daft and Lengel (1987) outlined the main ideas behind information richness theory. The theory holds that highly equivocal tasks call for information-rich media that allow or even encourage a high degree of personal interaction. The choices available for communication usually include face-to-face meetings, emails, telephone, voice-mail, fax, memos, or letters. According to the information (also called media) richness theory different media can be ordered on the richness scale with face-to-face being the richest medium, whereas email is a leaner medium. On a global scale, Lafarge has based its strategy on this medium to ensure that everybody gets access to this minimum level of information.

3.3 The Knowledge Management Framework

With the endorsement of a Steering Committee, the first actions taken by the Corporate Knowledge Manager were oriented around ensuring the tools for effectively sharing knowledge on a worldwide basis were in place. A *Knowledge Sharing Handbook* was made to assist the company with the development of knowledge sharing projects within the company. This handbook is designed to communicate the Lafarge vision of knowledge management and to give the basic rules and guidelines to realize this vision in the working environment. It defines a global framework for information and knowledge sharing and addresses issues such as the organization that will support these initiatives, the roles and processes behind the initiative, the structure of the Intranet and the recommended tools.

Four strategic issues are considered by the Steering Committee according to a framework (Figure 2) that sums up the strategy.

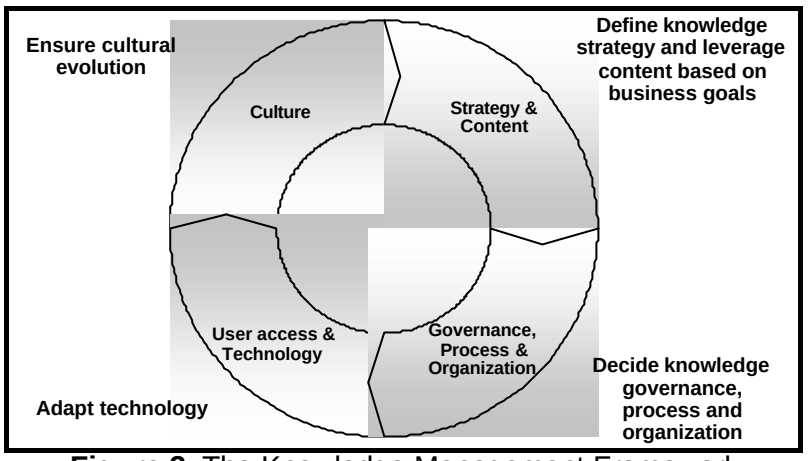

Figure 2. The Knowledge Management Framework

Strategy and Content that is linked to business objectives. The Knowledge Management Strategy has to be achieved according to business goals. Objectives are to ensure that knowledge management initiatives approved are linked to strategic priorities of the Group and to measure value creation for knowledge initiatives. As the handbook recommends, making a clear value proposition for the project supported with clear business performance indicators and a business plan outlining costs and benefits is the best way to ensure the project is sound.

Process and Organization is about defining roles and responsibilities for members of a knowledge-sharing project. A clear process of governance and organization must be defined in the divisions. The aim is to ensure a clearly defined and accountable organization to manage the knowledge sharing priorities**.**

User Access and Technology: the network, hardware, and software are essential elements of a knowledge sharing projects. In addition the navigation and user interface provide structure to the knowledge sharing initiative. This is the ground for a "technological strategy". Tools enable access to knowledge and must be simple and accessible to all. Objectives are to ensure accessibility and coordinate knowledge content based on user profile, deploy a Search Engine on all Notes Databases and applications and reduce total cost of ownership in hosting and development through standardization.

Culture provides the basis to ensure the results of the project. It ensures that everyone has an understanding of the enormous potential of knowledge sharing and both a willingness and environment in which to use them. Effective incentives and training will ensure success after roll out.

3.4 Knowledge Management Challenges

Return on Investment

One of the most important challenges of the Knowledge Manager was to start defining an organization, solving technical issues and supporting new projects without spending too much money. She has to prove the impact on performance of the Knowledge Management projects through Key Performance Indicators. On the whole, the idea was to "start small" and to prove the value brought by her action by choosing a specific project and obtain results.

Divisional organization

Our research has also underlined the fact that the knowledge management organization in the divisions still requires coordination today. More formalization was

needed in order to prepare the evolutions within the Group culture and the infrastructure. The Corporate Knowledge Manager needs to work with the Division Knowledge Managers to create a local structure to promote the sharing of knowledge and ensure they have the mandate to manage the development of Knowledge Sharing within the division with standard approaches and the worldwide reach. The idea behind is to formalize knowledge organizations in each of the divisions and to integrate and measure knowledge sharing in all daily business practices.

Clear understanding of the concepts of Knowledge Sharing
A lot of internal stakeholders make the confusion between information management and knowledge management. One of the most important tasks for the Corporate Knowledge Manager was to meet as many people as possible within the company to make the concept of Knowledge Sharing "crystal clear". It means formal and informal meetings, discussions at the Cafeteria, training sessions on tools and put the Knowledge Sharing subject on the agenda of top manager meetings.

4 Results

4.1 Knowledge Management Achievements

Goal 1: Generating value for stakeholders
In theory, knowledge sharing will create value for key knowledge stakeholders by ensuring that:

- Strategic knowledge and know-how is shared in order to help internal business perform better.
- Access to knowledge is available for ALL employees
- The needs of our key knowledge stakeholders – employees, strategic partners & customers is continuously surveyed and measured.
- Non-confidential knowledge is also shared with key external stakeholders.

The Corporate Knowledge Manager works as an internal consultant who supports internal stakeholders' needs to share knowledge. In order to increase her own awareness of the existing problems that occur at all level of the company, she organized workshops. The first session was organized around the effective needs of the employees. It was based on a methodology inspired from Shiba (1995): the Knowledge Manager asked internal stakeholders the situation in the past, the situation in present and the situation they would like to see in the future regarding the Knowledge Sharing Framework (ie. culture, process, technology and strategy). Results were written on post-it and were displayed on a matrix according to the impact and the urgency of the problem exposed. It has shown a major interest in solving technical problems encountered in the Group. Based on this feedback, the Knowledge Manager started working on tackling these issues. External stakeholders, such as investors were also considered when the CEO, Bernard Kasriel, made a presentation during a Shareholders Meeting in Paris in June 2002. He explained the implication of Knowledge Sharing on the business performance using two clear stories where knowledge was transferred between units and created an improvement in performance with a strong financial impact.

Goal 2: Providing simple ways to access knowledge
Another knowledge sharing goal for Lafarge is providing local businesses with a simple way to access knowledge and know-how, find experts and work collaboratively on solutions that leverage and apply the knowledge of the company. The Knowledge Manager decided to launch a new navigation bar to help people browse the information available on the intranet.

Goal 3: Build a culture of knowledge sharing and collaborative communities

Lafarge culture is multi-local, like a series of small businesses. This culture has an impact on the sharing of knowledge: it makes sharing and leveraging the resources and expertise of others more important. The Corporate Knowledge Manager has invested in synchronous collaborative tools like *IBM Sametime* to increase the chances to collaborate and to reduce phone calls. That kind of tool helps to build a collaborative culture among Divisions.

Goal 4: Providing tools to help decision

The last goal for the Knowledge Manager is to provide tools that will analyze knowledge and turn it into actionable business intelligence to further enable performance improvements for business and customers. As we have seen, information systems should exist only to support decisions (Gorry & Scott Morton, 1971). Mc Dermott (1999) underlines the fact that "Information Technology has led many companies to imagine a new world of leveraged knowledge […] as a result, many companies are rethinking how work gets done, linking people through electronic media so they can leverage each other's knowledge" (McDermott, 1999). Academic researchers of technology have begun to use the notions of innovation, learning, and improvisation to understand the organizational implications of new technologies (Orlikowski 1996). In that case, Knowledge Management tools, such as Knowledge databases containing best practices or recipes will create an organizational memory for stakeholders and collaborative tools or electronic directories allow people to plug their knowledge with each others. As Lafarge has expanded its international presence in a short span of time, its organizational structure is decentralized. The Socialization Strategy plays a great role in that kind of situation because it "focuses on dialogue between individuals, not knowledge objects in a database" (Hansen & al., 1999). As Arian Ward from Hughes Space & Communications underlines "*the idea is not to create an encyclopedia of everything that everybody knows, but to keep track of people who 'know the recipe', and nurture the technology and culture that will get them talking*". Putting the knowledge in use will create innovation for the organization. A quantitative research conducted by Hansen & Hass (2002) has shown that different types of knowledge have different impacts on a task unit's performance. For example, "electronic documents improved the time efficiency of the teams, while personal advice improved the quality of work and signaled their competence to clients" (Hansen & Hass, 2002).

4.2 Valuing Knowledge Management

Beyond the organization, the mission of the Corporate Knowledge Manager is to coordinate the knowledge management practices in the Divisions and the business functions. With the maturing subject of knowledge sharing the Group, the focus has evolved from a tool-based approach to a process-based approach.

Valuing knowledge management is obtaining tangible results with intangible resources.

The only way to prove the value of knowledge management for the Group is to obtain quick wins and tangible results in strategic projects. According to the Corporate Knowledge Manager, the strategy for managing projects was to "*start smalls and gain results to attract internal customers*". Initially, social networks were created around seven groups of interests in the deployment of the knowledge sharing platform. These groups of interests were dealing with several topics such as the "new search engine", the "metrics used on projects" or the "business intelligence". These groups were structured formally by the Corporate Knowledge Manager. Members were identified on

a voluntary basis and contacted by phone or by mail. Using social networks clearly shows that Lafarge is moving to a Socialization strategy.

To illustrate the value given by knowledge sharing and win internal customers, it is needed to communicate on "post-mortems". "Past-mortems" are stories that internal stakeholders can easily understand to illustrate the value bring by Knowledge Management. This method is used by companies such as Siemens with the Sharenet project (Davenport and Probst, 2000) or by Renault, the French car manufacturer, to show the amount of money saved by correcting errors based on capitalised knowledge (Prax, 2000). In Lafarge, the *Langkawi story* is the most important example of a "post-mortem". A cement plant in Malaysia wanted to increase its use of petrol coke, a efficient energy that can be used by cement kilns. The technical director it was facing some challenges with the build up of residue in the kiln as a result of burning petcoke. Using the technical centres and the knowledge sharing databases he discovered that a best practices developed by another cement plant. An experience exchange was organized and the two plants with the help of the technical centre collaborated on the implementation of the solution. The learning curve was sped up thanks to this exchange of knowledge. In 2001, petrol coke was used at 32% by the Langkawi plant. One year later it was used at 80% by the same plant, reducing the energy costs and increasing the returns in a shorter period of time.

Valuing knowledge management is solving day-to-day issues.

As we have seen, the Knowledge Manager has organized meetings with stakeholders to understand the problems related to information sharing within the company. One of the most important tools for them was a Group Directory of employees available on the intranet. This core application was not completed due to technical challenges. The problems were resolved and the fill in rate went from 30% when the Corporate Knowledge Manager arrived in the beginning of the year 2002, to 85% thanks to the effort of a group of committed knowledge practitioners all over the world. Day-to-day issues are solved because people can contact more easily another people thanks to the Directory. As Hansen & al. points out (1999) using corporate directory shows that a company is doing a Knowledge Management Strategy based on personalization. Statistical tools were also needed to provide a quantitative view of the usage of applications. The number of databases replicated worldwide has been growing at a rate of 25% per year for the past 3 years and that the volumes of data are growing at a rate of 100% per year. Key performance indicators (KPI's) for each of the databases are recommended. They provide the basis for evaluation at all steps in the project and allow for follow-up evaluation. They concentrate mostly on project "attendance" and "buy-in" by users.

The Knowledge Manager has to understand and maintain the technical functioning of an application (replications problems...) but also to encourage the effective use of information gathered on databases. The second task is the most important regarding Information Technology value. As Daft and Lengel have demonstrated, the richness of information depends from the medium. In the case of knowledge sharing tools, information is productive when the application is used (Orlikowski, 1999). According to Arthur Andersen's experience in Knowledge Management project for the World Bank "*the real implementation challenge is not to get the knowledge base, hardware and software in place, but to encourage their use. Better to start with a few elements of knowledge base where content is of high quality, timely and useful than to aim for comprehensiveness at the beginning*." In the same idea, the CIGREF organization, a French-based organization regrouping Chief Information Officers of the largest companies, has discovered that CIOs had hard time studying the value added of Information Systems. They prefer to focus on costs reduction, available functionalities on applications and server response time instead of evaluating the effective use of a tool.

Valuing knowledge management is developing a knowledge sharing culture.

Story telling of problems solving and internal communication of tangible results ease the diffusion of a new culture. The *Langkawi* story makes it easier for people to catch the great importance of sharing best practices. The Lafarge cultural model was influenced by the characteristics of the cement industry (long term, heavy industry, important engineering component, capital intensive) and by Lafarge's history, which makes it difficult to describe the culture. But Lafarge Management has always believed in the importance of people in the organization. Today's strategy is driven to become and maintain a position of leader in the construction materials industry and it must specifically integrate significant pressure from financial markets and real integration of a critical mass of people representing new ways of acting and thinking. Lafarge had been sharing industrial knowledge within the Group for 25 years, however following the merger with Blue Circle, Lafarge Management recognized an opportunity to formalize the knowledge sharing culture all across the divisions and around the world and is trying to create transparency. The knowledge sharing culture is aligned with internal company programs including *Leader for Tomorrow* - and Division Performance initiatives and to promote collaboration & communities of practice in the Group.

5 Conclusion: next challenges for knowledge management in Lafarge

As Tom Peters underlined in 1993, *the essence of an effective Knowledge Management Structure is advertising, marketing, packaging, incentives, big travel budgets, and the psychodynamics of knowledge management. The answer turns out to lie more with psychology and marketing …than with bits and bytes* (Peters, 1993). The shift from a technological strategy to a socialization one was anticipated by Peters ten years ago…but it was implemented by Lafarge two years ago. Our case study has shown that valuing knowledge sharing is based on tangible and intangible results. Tangible results are, for example, less time spent searching information and make the databases used by internal stakeholders. Intangible result is the development of a widespread culture of information sharing between the four divisions of the group. Today, the Corporate Knowledge Manager is facing new challenges to improve the sharing of knowledge at all levels of the organization: ensuring a consistent understanding of knowledge sharing by top management, considering that focus of knowledge management on tools is insufficient, defining a clear and responsible organization, ensuring knowledge sharing is adopted in the business units as a lever for business performance improvement and developing communities of practice who share regularly in the Group. The success of the project will be seen when there is no longer a need for formal Knowledge Managers but also when the sharing of knowledge becomes core behaviour in the Group.

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