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Case Study

A Case Study on the Implementation of A Knowledge Management Strategy Oriented to Innovation

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A critical aspect of business management is the successful creation of processes which drive the development of a continuous flow of innovation, to give a basis for competitive advantage. To reach this goal, the establishing of a knowledge management (KM) strategy may be considered the best way to channel the organization's efforts to this end. Knowledge management is understood in a wide sense as a process of overall change in the organization, focused on innovation, and especially related to the participation of every employee in the processes of creation and transmission of knowledge. This study analyzes the implementation of an innovation and KM strategy in the Irizar company, a maker of luxury coach bodywork. According to The Economist Intelligence Unit, Irizar is the most efficient company in the world in its sector. Irizar's success has been built on a system of self-management and participation, organizing its activity into processes and using multidisciplinary work teams. This type of organization has outstripped the traditional model, based on functions and the division of labour, and has permitted a centering of effort on those activities which add value. Another defining characteristic of Irizar is its combination of continuous improvement with radical changes and process re-engineering. A series of organizational factors are extracted from the case study which were successful in implementing the strategy. The study shows how the organization achieved the promotion of experience transmission and the generation of continuous innovation. It also makes clear that the firm's values and corporate culture are essential for success in this process.

INTRODUCTION

The knowledge management (KM) strategy is understood, within a resource-based view of the firm, as an overall change process and a form of organisational renewal, focused on innovation, through the creation, transmission and application of new knowledge (Cohen and Levinthal, 1990). The implementation of a KM strategy allows improvement of the firm's learning capability and its ability to combine knowledge-based capabilities and so make better use of them (Kogut and Zander, 1992). New resources and generated capabilities are difficult to imitate; these become the nucleus of a competitive advantage, so resulting in higher profitability (Drucker, 1993).

This study analyzes the implementation process used for a KM strategy in a case where a company carried it out successfully, definitively orienting the organization towards continuous change, learning and innovation. The study first defines some concepts relating to KM and innovation. Then the implementation process for the strategy is analyzed. This analysis permits the setting out of a

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series of essential factors in the success of the process and the advances made in KM in relation to innovation. These include the main factors in the firm's strategic change that the implementation of such a strategy involves, between which there must be a fit. Finally some conclusions are obtained and discussed.

KM AND INNOVATION

The concept of 'Knowledge' integrates capabilities, abilities, structured information and the application of technologies which can improve products and processes, so becoming a source of competitive advantage (Hall, 1992; Liebeskind, 1996; Winter, 1987). A part of the knowledge generated in the organization is explicit and can easily be stored and transmitted; however, tacit knowledge is also created, which is inseparable from the individuals who possess it. Knowledge can be considered as a resource of strategic importance: it is scarce, relevant, difficult to transmit in some cases (especially tacit knowledge); it is costly and difficult to imitate (Grant, 1996). In addition, using it makes it more valuable.

Knowledge management (KM) is understood as a process for the collection, distribution and efficient use of the knowledge resource (Davenport, 1994). It involves organization and improvement of methods, practical instruments and tools which contribute to the managing of knowledge, in a wide sense, in every area and level in the organization and which leads to improvement in products and methods of work. O'Dell and Grayson (1998) define KM as a strategy to be developed in a firm to ensure that knowledge reaches the right people at the right time, and that those people share and use the information to improve the organization's functioning. This in turn has created a need for businesses to evaluate the information and capabilities generated, in order to convert them into results which will add value and establish learning as a continuous process within the organization.

The process of implementation of a KM strategy involves the operations of creation, storage, distribution and application of knowledge; together, these make up a full cycle. This process will be called the *KM cycle*, to emphasize the continuity which should characterize this type of strategy. It is remarkable how this cycle, especially the creation of knowledge, is closely related to innovation. The creation of new knowledge and of innovations implies the application of intelligence, tacit knowledge and information: that is, an interaction between actions and behaviors. The action of creation does not consist of the processing of information or data, since the obtaining of tacit knowledge, which cannot be directly processed, is a fundamental part of this phase. It allows for the development of improvements and innovations on products and processes, capable of creating value, which then become part of the new knowledge in the system.

In addition, it is important to consider a number of aspects in the knowledge-creation process: the organization's internal knowledge base; the acquisition of information and knowledge from external sources; the integration of internal and external knowledge and its application to problem solving; the creation of new knowledge and the generation of innovations from this integration, and finally the importance of the organization's capacity to absorb new knowledge (Soo, Midgley and Devinney, 1999).

A number of authors have shown that the new knowledge generated is the principal source of innovation for a firm. For example, Nonaka and Takeuchi (1995: 3) bring together the experiences of Japanese companies in this respect; Teece, Pisano and Shuen (1997) emphasize the point in their discussion on 'dynamic capabilities'; Grant (1996) points to the importance of integrating different types of knowledge in order to innovate, while Kogut and Zander (1992) refer to this relationship in their concept of 'combination capability'. A basic premise has therefore been included in the creation of knowledge: that a firm needs to continuously renovate its knowledge base to ensure that this base does not become obsolete for the development of innovations. New knowledge, the basis for innovation, will constitute the future knowledge base for the organization and will contribute to the regeneration and widening of the existing base.

A firm's technological innovation process is characterized by a series of essential features (Pavitt, 1990: 18). First, there is an implication of continuous and intensive co-operation and interaction between groups which are specialist both functionally and professionally (R&D, Production and Marketing for implementation; Organization and Finance for the strategic decisions on entering new business areas). Second, it involves a series of activities whose nature is uncertain in terms of results. In addition, it is a cumulative activity: the greater part of technological knowledge is specific and although this knowledge and abilities can be bought from the exterior, there must be an assimilation capability in place for it. Finally, it is highly differentiating, since it is possible to apply specific technological abilities from one field in another.

All these characteristics make clear that the innovation process in a firm will be a very wide-ranging one, involving the obtaining of knowledge from the existing organization, the combining of information, data or previous experience and the generation of new uses for the resources (Nonaka and Takeuchi, 1995). For Krogh (1998: 134) it is essential that this process be developed in work teams which have clear objectives in relation to the products and processes; in this way, they can contribute innovations to the firm as a whole.

The following section is devoted to the analysis of the case study used in this work. It describes the way in which the implementation of a KM strategy can be used as a means to generate a flow of strategic innovations, so giving a source of competitive advantage.

The study is structured in the following way. After presenting the firm itself, a description is given of the mission and values taken as a starting point for the strategy established. The implementation process for the strategy is then described, together with the work organization changes which this assumed. The results of the case study are articulated as a series of key factors. Finally, the study closes with a discussion of the main conclusions reached.

CASE STUDY

The company analyzed in this study is Irizar, an associated work co-operative belonging to Spain's Mondragón Co-operative Corporation (the MCC). The MCC can be considered as the world leader in co-operative working. It is made up of more than 100 co-operatives of associated businesses and employs over 42,000 workers.[1]

Irizar is a firm devoted to the assembly of luxury coaches. It has seen spectacular growth over the last few years (see Table 1); especially noteworthy has been its growth in average productivity of 18.4% in the 1993–2000 period. The firm currently has 634 workers in its Ormaiztegui factory (in the Spanish Basque country). It exports to 45 countries and has shareholdings in five other companies: Irizar Tianjin (35%); Irizar Maghreb (34%); Irizar Brasil (100%); Irizar Mexico (100%) and International Hispacold (65%). It assembles six coaches every day and has a 33% share in the Spanish market with a further ten companies sharing the rest.

Table 1. Some figures for Irizar

Number of workers (91–00)	225	634
Sales (91–99)	\$15 million	\$103 million
Sales per person (91–99)	\$55,000	\$165,000
Added value per person (91–99)	\$14,000	\$61,500
Maturity time (91–99)	38 days	14 days
Production rate (93–00)	1.2 coaches/day	6 coaches/day

Within its sector, it ranks first in Spain and third in Europe.[2] Sales of luxury coaches in the European market are around 10,000 units/year, but only seven companies sell more than 600 units/year. Furthermore, the sector is strongly concentrated as a result of agreements between the bodywork and chassis makers for both coaches and trucks (Mercedes, Volvo and Scania).

Irizar can be considered as an innovator in products, processes and in general management, where it is successful in its field. For the Economist Intelligence Unit, Irizar is 'probably now the most efficient coach builder in the world' (EIU, 2000: 172). These facts justify the study of the KM strategy implementation process and the factors which have made it successful.

Strategic change at Irizar: the organization's mission and values

The KM strategy implementation began at Irizar in 1991, a moment in which the firm was in a critical situation, having accumulated major losses almost to the point of bankruptcy. Given the situation, the new management decided, with the support of all the workers, to carry out an emergency plan. This involved changing the strategy of the firm, diversifying markets in order to succeed in a global market and focusing only on the assembly of luxury coaches (they had previously produced urban buses also).

The implementation process was supported through a global change focused on the building of a strong culture, in which all the members of the organization were to be involved—this led to the definition of the process as 'a project based on people'. The firm's management tried to encourage the acceptance throughout the organization of some cultural principles—these have been reinforced over time (Figure 1).

[1]MCC ranks at number 185 in the list of European companies by business figures, and it is sixth in the ranking of Spanish-capital companies within the European context.

[2]It should be underlined that the company has received prizes and awards such as that of being the first European company in its sector to obtain ISO 9001 Business Quality Certification, or the Coach of the Year Award for 1994 in the UK.

Mission

'We are seeking a project based on **people** who work in teams, making Irizar an excellent firm in which, through continuous customer satisfaction, the workers of the co-operative, **external collaborators** and our surrounding factors (**society and environment**), allow us to obtain profits that make possible a **growing generator of richness and new jobs** in a co-operative environment, with communication and active participation'.

Values

1. Customer satisfaction is our guarantee for the future, and because of that, must be our main objective
2. To reach always the maximum professional competitiveness
3. Foster and manage change, take initiatives and risks
4. Work in teams providing ideas
5. Trust in people and merit their trust
6. Be open to communication and information. Create and share knowledge
7. Respect customers, suppliers, workers, society and the environment
8. Accept responsibilities, assuming the results of our actions
9. Look for excellence. Make it work properly first time. No defects
10. Quality, Service, Cost, Innovation, Security and shared experience as keys of our activity

Figure 1 Mission and values in Irizar

Following the principles above, the stategy adopted by the firm was supported in three areas: customer focus, shared leadership, and the adoption of a radical change model.

First, Irizar's strategy was oriented towards 'To know, serve and add value for the customer'. For adaptation to the customer's requirements, the key questions are: quality, service, cost, innovation, security and shared experience. Therefore several long-term agreements have been set up with customers and suppliers, permitting improvements in knowledge of the environment, markets and customers. The second fundamental aspect in the Irizar strategy was that of shared leadership. The idea that 'the best organizations do not depend on great leaders' is strongly accepted in the culture of the organization. This has encouraged a shared leadership (participated objectives and fluid communication).

All workers are encouraged to direct and co-ordinate, on a temporary basis, some part of the work team, so taking on a certain leadership of the enterprise. The Assembly system used by the business to take decisions means that all workers participate and assume responsibility for shared objectives. This is a consequence of the legal format of the associated work co-operative.

The process of implementation of the KM strategy

Establishing Irizar's KM strategy involved an evolution, through a series of phases which were aimed at the continuous generation of innovation. The process started in 1991:

(1) *1991–1992: Dissemination of the ideas for change.* A distribution of the ideas contained in the firm's mission and values was carried out, with the participation of all workers. This mainly involved the attempt to transmit to the whole organization the importance of knowledge as a strategic resource and the development of innovation.

(2) *1993–1994: Establishing the firm's strategic positioning.* Once the ideas had been disseminated, a start was made on applying systems for the storage and sharing of experience and knowledge, with the active participation of the majority of the workers. The company set the strategic objective of doubling production volume to two coaches per day. To do this, an internationalization strategy was adopted with the aim of expanding sales in countries such as Germany, France and the UK. This phase saw the obtaining of specific improvements in

quality and productivity, considered to be basic requirements of competitiveness. The effort made to obtain ISO 9001 quality certification should be emphasized; Irizar was the first European luxury coachmaker to obtain this qualification.

(3) *1994–1997: Radical changes in the organization.* A 'strategic reflection period' took place in this year, which gave rise to the introduction of a re-engineering model. The model involved a redesign of processes, and changes to the vertical and horiziontal organization charts: all work was to be organized in multi-disciplinary teams, with wide autonomy and limited supervision. The work teams periodically set objectives relating to productivity, quality, compliance with customer deadlines and other operative improvements. The strategy has made it possible to achieve compatability between incremental changes and radical improvements in a re-engineering model.

KM and innovation came to form part of the company's strategic objectives. Use of knowledge storage and distribution systems (such as databases) was generalized and major improvements were obtained at the operational level, together with significant increases in all the sales, profitability and efficiency indicators. This has continued since then.

From 1995, Irizar adopted the EFQM (European Fundation for Quality Management) Model for Excellence, based on participation, innovation and learning. This serves as a model for the detection of improvement opportunities via overall external evaluations and detailed self-evaluation. The efforts made at the company over this period have been recognized by the receipt of a number of national and international awards.

(4) *1998–2000: Expansion of Irizar and recognition of itys work.* Starting in 1998, Irizar created a business group, comprising Irizar S. Coop, with its headquarters in Spain, Irizar Tianjin (China), Irizar Magreb (Morocco), Irizar Brazil and Irizar Mexico, with a shareholding in International Hispacold, all to be able to service the growing demand in these markets.

At the same time, a systematic application of KM was put in place to establish a continuous improvement process and ensure results in the creation phases and application of the new knowledge. The achievements obtained were major, radical improvements, the development of innovations and the creation of new knowledge. The company has been in this position since 1994.

The company's work in this period was recognized by the winning of numerous prizes and awards, including ISO 14001 certification for the Environmental Management system and the maximum EFQM qualification, among others.

To reach the levels proposed by the model, different systems, practices and tools were used, related to the strategy and core features and surrounding conditions of the firm. One of the most important of these was organization of the work into teams.

Changes in work organization: multidisciplinary teams

In order to carry out its proposed strategy, Irizar introduced major changes to its work organization, in line with a model for 're-engineering based in multidisciplinary and self-management teams'. This organization of work has been essential in the evolution of the firm. The work teams are understood as systems for the creation and distribution of explicit and tacit knowledge, and their functions are closely related to different stages of KM.

The organizational structure of Irizar is built around a group of working teams. A *static chart* is first set up, built around a group of teams with specific tasks which remain the same for a long time, in which all the workers are included. This coexists with a *dynamic chart*, which includes another group of teams devoted to support jobs for the strategic objectives; their working method is much more agile, to adapt to the improvement needs required in any given situation. In addition, the work is divided into processes, including a core self-management process in which more than 90% of workers take part, together with customers and suppliers. Everybody is involved in different working teams which have relations with their surrounding entities and which manage the whole process, from receipt of a customer order to the delivery of the vehicle. All are inter-related. The work teams which have been created and active from 1994 are shown in Figure 2.

The people working in the teams have more generalized skills, are less specialist and enjoy wide autonomy and development possibilities in their work. The work teams have been one of the main tools through which the company has achieved continuous, intensive co-operation between different professionals, with very different knowledge, that characterizes the process of technological innovation and the creation, accumulation and transmission of knowledge.

STATIC CHART	*DYNAMIC CHART*		
Co-ordinator team, devoted to:	**Name of the team**	**N° teams**	**N° pers.**
- Relation with national customers	***Shared experiences (devoted to KM)***		128
- Relation with international customers	- Communication	1	9
- Relation with suppliers	- Information technologies and communication	1	9
- Technological service	- Irizar creation	4	101
- Product innovation	- Analysis of **knowledge** in process	1	6
- Synergies, **knowledge** and technological transfer	- **Knowledge** Increase	1	5
- Financial resources	PB-XXI	10	50
- Relation with workers	Purchase reengineering	7	30
- Irizar project	Teams with suppliers	10	52
	Synergies between external plants	6	19
	Line-customer teams (6 lines)	72	600
Multidisciplinary self-management teams:	Communication and advertising	1	9
- Relations with customers			
- Relations with suppliers	**Get to Know customers**		
- Technological service (product engineering, process engineering, product quality techniques, production planning and supply)	Internal logistics	1	13
	Analysis of accidents	1	4
	Post-sales service team	1	5
	Other teams	1	14
- Production /co-ordinators ELC	- Corrector actions TOP-10	1	19
- Technical assistance service	- Quality	1	23
- Management and accounting	- Marketing	2	13
- Administrative services	- Improvement suggestions	1	11
- Systems and information services	- Co-ordination team	1	9
- Health service	- Product engineering	1	10
- Restaurant services	- Innovation	1	10
- Staff of co-ordination team	- Planning	1	21
	- Technical assistant service	1	9
	- Other services	3	27

Figure 2 Irizar chart

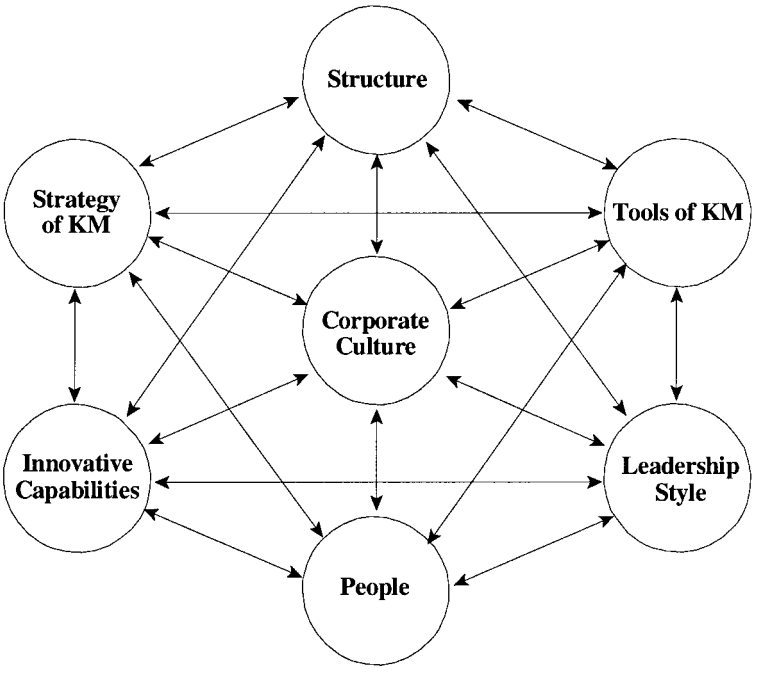

Figure 3 Organizational success factors in the implementation of KM

SUCCESS FACTORS IN THE STRATEGY'S IMPLEMENTATION

The analysis of the case in question allows pointing out a group of organizational factors that can be considered essential in the success of the implementation process of this strategy. The factors found in the case analysis can be fitted to the classic 7-S McKinsey model (Waterman, 1982) (Figure 3), the scheme used to represent the principal aspects on which a succesful strategic implementation depends. The model suggests that there are a set of factors which influence strategic change in a company, and that these should be interconnected and be internally coherent. In this case, a KM strategy is involved, focused on the building of a series of capabilities related to innovation. Corporate culture is the core factor, although it must fit with organizational structure, management of human resources, leadership style and KM systems and tools.

The knowledge management strategy developed at Irizar

At Irizar, it is understood that the objective of KM is the promotion of innovation and the capacity of the organization to transform the opportunities which appear into results, in a more efficient way than its competitors. The process of creation, storage, distribution and application of new knowledge has been systematized in Irizar through working teams, supported by values like trust and tolerance to mistakes. The learning through 'shared experiences' is important, but the key question is knowledge creation and innovation. Other questions such as productivity and quality are simply the initial conditions required to compete. Another key question, in relation to strategic targets, is knowledge of the environment through long-term agreements with customers and suppliers.

The most important achievements reached in relation with KM as an innovation strategy at Irizar are the following:

- *Overall personnel satisfaction*. Measured by a satisfaction at work questionnaire, which has given very satisfactory results.[3] This is mainly explained by the active participation of the workers in the decision-making process, the variety of jobs taken on, the high degree of autonomy in work, and participation in the suggestion system. All of these reinforce people's motivation and define a leadership style.
- *People participation in the creation and application of new knowledge*. More than 90% of the workers participate voluntarily in working teams. Everybody is expected and encouraged to make at least two improvement suggestions per year (more than 1260 ideas per year in total).
- *Shared learning (to encourage knowledge transmission)*. More than 10% of the time is devoted to learning in teams.

KM tools

The systems and tools used to foster creation and transmission of knowledge (shared experiences) are the following: information and communication, external relations, education and training, working teams and committees and the assembly system for decisions. All of these are based on participation in the process. Although the new information technologies are applied in a similar way to that used by the firm's competitors, this does not seem to be an essential factor for success in KM in this case.

Another important aspect is the use of KM results measurement tools, which at Irizar are not limited to the quantitative aspects but which also advance and define other measures related to strategic objectives (people's overall satisfaction, participation, shared learning and shared leadership). These permit the establishing of a monitoring control on the organization's strategic objectives.

The development of innovative capabilities from KM

The concept of innovation is understood at Irizar as 'the introduction of new ideas or methods to the way in which something is made or done'. The relation between innovation and KM can be summarized in a few words: 'Innovation as a goal and KM as a method.' This is supported by a series of cultural values:

- Shared vision: dreams, ideals, commitment, belonging to the project, work in teams, mission and values.
- Knowledge flows from shared experience, and innovation from knowledge.
- Irizar is a project focused on innovation and knowledge creation.
- It is essential to encourage shared learning in self-management teams.

[3]All workers complete this questionnaire at regular intervals, surveying them on aspects relating to their level of satisfaction with their work. The results are valued on a Likert scale of 1 to 7 for the different items. Over the last few years, the average satisfaction index—calculated as the average of the values given to each question—has been higher than 4 points from 7.

- Autonomy for taking decisions and tolerance of the mistakes which application of new knowledge involves.

Structure

At Irizar, a functional structure was replaced by an organization based around processes, in which the work teams are a key part. Two key factors are found: reduction in the number of hierarchy levels and organization of the work into teams. Irizar has a very flexible organization, with a very low number of levels and an almost flat organization chart. There are no intermediate supervisors and all employees are integrated into work teams. Among these, the line-customer teams should be emphasized: these teams manage the greater part of the production process phases, from supplies to process engineering.

This fosters a reduction of differences in salaries in the organization and makes similar the involvement of all workers in reaching strategic objectives. There are no time controls at Irizar and supervision is carried out within the teams in relation to their work (improvements obtained, meeting of time limits and so on). Also, some changes have been made to the physical workplaces to facilitate knowledge transmission and communication.

Human resources

A key principle for the company's success, assumed in its culture, is the importance of people and their participation to achieve the proposed strategic objectives. This principle is strongly influenced by the culture of the corporation to which the firm belongs (the MCC), which encourages participation as a strong value.

Work teams constitute the system which articulates participation in the organization, in particular the line-customer teams. They are an essential tool in explaining the goals reached. In Irizar, all the work is organized around work teams, which also carry out support jobs related to the execution of strategic goals, especially the line-customer teams. The teams are dynamic and have a close relation with their surroundings, mainly customers and suppliers. This structure motivates the workforce and depends on them. This makes the workers feel that their participation is important and that they are involved in the company. Work teams have contributed to the creation of a shared view of the firm's problems and to a simple transmission of knowledge. Because of their importance, the participation of worker is massive, although there is no special reward.

Given the special nature of the working organization, the recruitment process is carried out in a particularly careful way. The time taken for a new person entering the firm to become a member is around three years. In this period, the new worker passes through various stages called 'profesiogramas', during which he or she is evaluated in terms of various parameters referring to the work, such as activity, quality, initiative, motivation, ideas contribution, team working, availability and multiskilling. New recruits who do not fit into the organization (one in ten people) leave within six months. However, the number who leave the organization once incorporated into it is very small (there were none at all in the last year) even when there are strong financial incentives to do so. Although salary differentials exist, the workers are aware that these are justified by varying levels of training. In general terms, the workers consider themselves to be well paid and this subject does not generate conflicts.

A principle which has been strongly adopted in the firm's culture is that technology is not a differentiating resource, but people are. The necessary technologies can be purchased externally, but any competitor can also do this. Knowledge, on the other hand, is a unique resource. In the words of the manager, '. . . When people have greater shared experience, they create more knowledge. Resources run out, people don't.'

Leadership style

The role of strategic leadership is essential for success. At Irizar, leaders promote the initial process, support ideas for improvement and give support and advice to teams. They also advance the process with a more participative leadership. More than 20% of the employees have led and co-ordinated a team at some time.

Participation in the development of strategy is also high, in accordance with the co-operative principles of the Corporation. There is a co-ordinator for this and a minimum of three Assemblies per year, attended by all members, to fix the strategic objectives.

Corporate culture

As described above, participation and trust are key values in the firm. The Assembly system for taking decisions encourages participation in establishing goals and strategies for the firm. In addition, people's active participation in knowledge creation and transmission in working teams is an essential cultural value. At Irizar, participation is the

fundamental task of the normal work: 90% of personnel are involved and every aspect related to structure and operative management is included. All this is encouraged with a very open vision of work and a certain tolerance of mistakes.

One of the main factors explaining the culture of the firm is its belonging to the MCC, which is composed of a set of co-operatives that have come together voluntarily (Forcadell, 2000). This fact determines the way in which decisions are made, being a democratic way of delegation. The co-operative philosophy aims to overcome the capital–worker confrontation, ensuring that the people involved are co-owners and therefore co-participants in the company's decisions and in its results. The MCC's mission was established in the *Basic Principles of the Mondragón Co-operative Experience*. These principles, based on co-operation, bring together a series of beliefs: free access, democratic organization, the sovereignty of the work, an instrumental and subordinate role for capital, participation in management, retributive solidarity, interco-operation, social transformation, universal character, education. The mission and corporate values summarize the corporation and the culture of all the firms belonging to it: customer satisfaction, people as the business's principal asset, optimization of products and services, co-operation, continuous improvement and social commitment.

CONCLUSIONS

This analysis of one firm that can be considered as an innovator in management, and that has successfully developed an innovative strategy based on KM, makes it possible to extract some success factors for the implementation of a KM-based innovation strategy. The fact that it is possible to do this on the basis of the classic 7-S McKinsey scheme suggests that these success factors are valid for any type of strategy. It is possible that the quality of the strategy established in a firm can be measured via these same factors, even if the individual case is a strategy for which new tools are used.

The analysis revealed that one of the essential organizational factors, because of its influence on others, is corporate culture. The most important conclusions emerging from the analysis are the following:

- KM can be used by a firm as a method to develop a process of continuous innovation with the participation of all the members of the organization.
- Implementation of a KM strategy is developed through several phases. The process starts with dissemination of the ideas to all of the organization and is followed by KM implementation. This allows achievement of competitiveness in terms of cost reduction, quality, productivity and other operational improvements. In the next stage, incremental improvements are carried out simultaneously with other, more radical, changes and KM is developed in order to achieve autonomous and continuous innovation.
- There is no single best way to implant KM. It depends on the specific conditions surrounding a firm and the strategic vision of its leaders.
- In the case studied, the implementation of a KM strategy was supported on a model of overall change, based on people participation, customer focus and shared leadership.
- Knowledge creation, storage, distribution and application was supported by some organizational changes that the company developed itself, especially in relation to work in teams, the application of knowledge-transmission tools, shared leadership, encouragement of innovative capacity and the assumption of cultural values by people.
- Organization of the work into multidisciplinary, self-managed teams helps the creation of new knowledge and its transmission within the company.
- In relation to corporate culture, trust, participation, enthusiastic and participate leadership are forces for development which explain the goals reached. The analysis shows how the results of KM and innovation in the firm are rooted in the degree of depth to which these values have been assumed by the people in the organization.
- Successful implementation of this KM strategy depended on flexing the structure, designing an almost flat organization chart and eliminating the traditional control and supervision systems (these functions were taken over by the team members).
- The main achievements of the strategy are the high level of worker satisfaction and the creation/transmission of knowledge. KM was the method which made possible the essential strategic goal of developing continuous innovation.

For conclude, it is possible to articulate the key success factors here identified in terms of the 7-S McKinsey model. This suggests that these factors may be valid for any type of strategy. It is possible that the quality of the strategy introduced can be measured using these same factors, even where the strategy itself has used different tools.

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