

# A Model Based on Core Processes and Knowledge Management to Promote Innovation: a Case of a Mexican Trading Company

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## Abstract

*The constant changes in the global economy favor the development of some companies, but can deteriorate some others; constant innovation and organizational strategies oriented to search for customer satisfaction and personnel welfare collaborating within a company represent a competitive advantage that helps organizations to sustain in time. Small and Medium-sized Enterprises play an important role in this value chain, the challenge is not only to keep on being in business but also to transcend and generate new knowledge. This article analyzes the implications of implementing KM initiatives in order to promote the realization of innovations about core processes among collaborators being part of the organization which may in turn impact on the improvement of the work environment and the customer service. This study was conducted in a Mexican company dedicated to the commercialization and distribution of cleaning products. The implementation, the results, the main difficulties and the recommendations derived from this study are explained in detail. Some of the main results include the work environment and the final customer satisfaction was improved after implementing several KM initiatives and constantly promoting the generation of innovative actions for the core processes. It was also found that given an appropriate environment, collaborators are encouraged to openly participate to create innovating ideas in their work areas with a better professional and personal development, both within and outside the enterprise.*

**Keywords:** Knowledge management, core processes, innovation, SME

## 1. INTRODUCTION

With the purpose of remaining and growing in the current global market, organizations must improve as soon as possible. Nowadays, there is an approach change from a product-oriented organization to a customer oriented one, which incorporates understanding the customer needs and how to attract them and keep them in the long run. Companies use a wide range of trading strategies in order to attract new clients and keep the existing ones; a competitive advantage has to do with creating a lasting relationship with the client (Venugopal and Priya, 2015).

Savaneviciene et al. (2014) state that the highly dynamic environment conditioned by the economic and social changes has increased the customer needs and the employees' expectations. This represents a critical problem for Small and Medium-sized Enterprises (SMEs) since it requires an adaptation to the fast evolution of the environment and the capacity to properly behave under unconventional conditions. Thi and Nico (2015) state

that one of the main problems SMEs face is the lack of innovation in their processes and management of resources. The SMEs can have some barriers in the application of some innovation strategies, according to Gardiner (2015), almost 70 % of SMEs are unable to innovate as a result of a poor work environment. Gardiner (2015) mentions Pip Marlow, managing director of Microsoft Australia, as an example. He states that many enterprises find it difficult to develop an innovation culture, because they work in isolated departments, have mistrusting employees and there is poor collaboration. On the other hand, some companies reveal that their businesses have process- and technology-related problems (Howard, 2014).

Considering that innovation is a vital factor in the development of a competitive advantage, there is no research that examines the factors that reverberate in a SME, nor a deep knowledge of the innovative behavior of employees and their capacity to produce innovative solutions based on problems Carmelli et al. (2006 cited in Xerri and Brunetto, 2011).

To influence in the solution of this problem, a case study in a Mexican enterprise dedicated to the marketing and distribution of cleaning products was developed. The company currently has a total of 35 collaborators in its five points of sale, consisting of 2 franchises, 2 branches and 1 distribution center, being categorized as a medium-sized company according to the enterprise classification provided by Diario Oficial de la Federación (2009), with growth plans and the opening of a new branch in 2017.

Confusion over the definition of the main work processes, job description and scope of responsibilities was present in the company under study. This caused a poor work environment, affected the level of customer service and also provoked a deficient communication among collaborators, points of sale and customers.

The objective of this paper is to propose a process based on core processes and knowledge management that eases innovation with the aim of improving customer service and work environment.

This paper is organized firstly by an introductory section where the core processes, knowledge management, SMEs, innovation, customer service and work environment concepts are explained. Then, the proposed model and its components are developed and after this its implementation is explained. Right after, a case study that explains in a detailed way its implementation and obtained results is described. Finally, conclusions, difficulties and recommendations of the study are shown.

## **2. FRAMEWORK**

In the following paragraphs the main concepts related to the study and that consider marketer SMEs, core processes, knowledge management, innovation, customer service, work environment are presented. In addition, some SMEs studies relating the previously described concepts are shown.

### **2.1 Small and Medium-sized Enterprises (SMEs)**

According to Harrigan et al. (2012) SMEs differ from the larger organization in many aspects, but a particular difference lies in their trading activities. SMEs are vital to our economy, thus, the way they compete in the modern economy is of high importance, and deserves more academic attention than it currently has Connelly et al., (2010 cited in Harrigan et al., 2012).

Harrigan et al. (2012) state that SMEs face a series of challenges in trading, where they are characterized by a lack of resources, the experience and impact Doole et al., O'Dwyer et al. (2006; 2009 cited in Harrigan et al., 2012).

Lehner et al. (2005, cited in Durst, 2011) argue that small businesses are less likely to have a general vision of their organizational knowledge, which can result in the sudden loss of knowledge, the intangible resources and relational capital Lynn, (1998, cited in Durst, 2011).

## **2.2 Core processes**

A process is a collection of activities that transforms inputs into outputs or results. A core process is a collection of inter-functional organizational activities that are essential to satisfying external customers and meet the organizational mission (Aguilar, 2013; Gryna, 2001). These activities integrate people, materials, energy, equipment and information. The activities that are performed there have a direct impact on the critical success factors (Gryna, 2001). Core processes are activities or group of activities of high importance for the success of the organization which will affect the deterioration of the organization in case of non-compliance with any of them. These are not to be outsourced, due to the fact that they keep the enterprise alive and competitive (Boguslauskas and Kvedaraviciene, 2009). The correct identification and managing of core processes will produce organizational advantages: better and more coherent and predictable results, identify the recipients of the process and their expectations, integrate and align the processes in order to allow the achievement of the planned results, identify opportunities for improvement, satisfy the customers, and continuously optimize its global functioning (Aguilar, 2013). To determine the core processes of an organization, its diverse processes must be analyzed in order to select those that best comply with the following characteristics: having a direct impact on the mission and vision, as well as on the critical success factor, generate benefits that are key to the organizational success, having an impact and provide added value to the company, permit the satisfaction of the customer requirements, and having human, technological and information resources of value to the organization (Gryna, 2001).

According to Weiss (1994), to identify the business core processes the production process of products or services, from the placing of the order until the collection of payments must be understood in detail. Therefore, every step of the process will have to be analyzed and develop a diagram on how the work flows through the organization. Unlike the typical organization chart that represents the hierarchy of the organization, this graphic shows exactly what is done in the tasks and the participation the employees have on each stage of the main business process. In order to design a process map, the different orders are followed through the purchasing, selling, production and distribution processes. The types of software and documents used in the process, the number of employees for each task and the expected results must be taken into account. The objective is to identify the steps on the most efficient and profitable work flow.

Savaneviciene et al. (2014) mentions that the main competencies to manage the core processes are: strategic thinking, innovation, openness to change, initiative, planning and decision making. The second unit of the necessary competencies for the association and self-administration involves communication, learning, developing, and inspiring motivation, teamwork, conflict management and flexibility.

### **2.3 Knowledge management**

Knowledge represents the most important asset of organizations and its main source of competitive advantage (Mangiarotti and Mention, 2015; Drucker, 1993). Nonaka and Takeuchi (1995) classify it in tacit and explicit, where the tacit knowledge lies in the people and is difficult to articulate, while the explicit knowledge can be easily transmitted from one to another through images, documents and other considered elements.

In order to take advantage of the knowledge within organizations it is important to manage it, so Knowledge Management (KM) with its multidisciplinary nature can offer the strategies to achieve it, since it comprises diverse fields such as organizational science, cognitive science, information technologies, anthropology and sociology, education and training, among others (Dalkir, 2011).

Davenport and Prusak (1998) state that KM is in charge of exploring and developing the knowledge assets from an organization so that it can be able to fulfill the strategic mission. Additionally, Durs (2011) and Bounfour (2003) define it as a group of procedures, infrastructures, technical and administrative tools, designed to the creation, behavior and a more efficient use of information and knowledge within and around the organizations.

Zhou and Fink (2003, cited in Daut and Fadzilah, 2010) state that the KM processes are part of the processes of an organization. A proposal of KM process according to Wiig's model (1993, cited by Bogdanovska, 2013) is the generation, organization and storage, spreading and the application/use of knowledge.

According to Duică et al. (2010) some advantages KM can bring to enterprises are: Strategic benefits where a competition growth and characteristics of new products and services are intended; tactic benefits where innovation and fast learning of the employees as well as improving the organization, motivation, competitiveness and decreasing the knowledge loss are pursued; and operational benefits that imply reducing costs of complex tasks, reducing defects and errors, and having a wider reutilization of knowledge. Organizations use KM to face the challenges and make new products and services, in order to obtain an efficient behavior of employees. KM turns into a successful practice if it belongs to the general culture of the organization and through its application intangible capital can be obtained keeping the success of the company (Duică et al., 2010).

### **2.4 Innovation**

Innovation has been a competitive advantage key factor (Madrid-Guijarro, 2013). Innovation can lead to a market increase, higher production efficiency, an increase in productivity and incomes. Keizer et al. and Tan et al. (2002;2009 cited by Madrid-Guijarro, 2013) state that innovation contributes to economy growth and it represents one of the most important means SMEs can use to remain competitive.

The development of innovative business practices has turned into an essential function in today's organizations. The ever changing global economy, in which organizations operate, are forcing organizations to develop competition practices that can provide innovative solutions based on problems (Xerri and Brunetto, 2011).

On the other hand, Carmelli et al. (2006 cited in Xerri and Brunetto, 2011) mention that knowledge transferring is a key factor to provide the employees with the resources to solve work-related problems in an innovative way. Current literature describes the innovative behavior as a three-step process: the first step is identifying a work-related problem; the second step consists in creating new ideas and solutions to problems; and the last step is about supporting the ideas and solution for their integration in the organization.

## **2.5 Customer service**

A key point in the organizations is the way the marketing and operations departments are managed. These two areas represent the key added value of every organization. Cooperation and collaboration among these two functions is of high importance to success in a highly competitive environment in the retail market. The growth of the organization depends on the satisfaction, retention and loyalty of the customer (Piercy, 2009).

The SMEs that value customer knowledge and emphasize on a management system to respond to their needs, have a superior performance to those without such system. (Chaston et al., 2005; Simpson et al., 2006 cited in Piercy, 2009). Focusing on the customer needs service can be improved through the implementation of a suitable information system, the managers of the organization must encourage their employees to share their knowledge of the services provided to the customer (Fan and Ku, 2010).

In order to succeed, customer service must be more than a slogan, more than a service of speech. A strategy is needed, one that is applied in full and with success (Dehaan, 2014). A possible and important strategy focuses on offering high quality customer service. Services should lead companies to success. Customer service can be a competitive advantage to organization in all of their areas; these competitive advantages must be aligned with the customer requirements (Kanovska, 2009).

The high performance companies that have a customer support culture and application of technology will be called “the new marketing” and it is where the customer will be better and faster served using technology such as Uber, Airbnb and Kickstarter (Beaubien, 2016).

## **2.6 Work environment**

The problems in the work environment directly affect not only the personnel, but probably will also affect the quality of the service (Pestoff, 2014). When employees are working in a work environment characterized by a low autonomy and unavoidable demands, they may be less effective than when employees are in high autonomy environments (Britt et al., 2015). The psychosocial factors of the work environment, as well as the information about decisions related to the workplace, social support and its influence, have a significant impact on the level of job satisfaction (Sell and Cleal, 2011).

According to Sardzôska and Tang (2012) a good work environment is the one that stimulates and increases the satisfaction, commitment, and performance of the workers within an organization.

Stasishyn and Ivanov (2013) establish that an unhealthy work environment is caused by the organizational environment in which employees work during their rest hours and the work is longer to advance in their careers or to face the workload. In an environment where well-being and working life is not important, the emotional aspects and the physical health of workers are seldom investigated. This behavior seems to be result-oriented and centered on productivity. Nevertheless, this detachment to people’s emotions is translated into a low level of trust in the company.

Employees want to feel safe, important and part of the organization. Levering co-founder of the Great Place to Work Institute, suggests that “a great workplace is one where people who work there are trustworthy, are proud of what they do, and enjoy the people they work with. Innovating as a team moves an organization forward, since the product was obtained through the effort of the collaboration (Stasishyn and Ivanov, 2013).

## **2.7 Related studies**

Below are some studies related to SMEs that involve the concepts described above and how they have been applied to promote innovation within the organization seeking to improve customer service and the work environment.

A study developed by Demircan and Ertürk (2010) refers to the importance of some innovation strategies such as empowerment, which comes from innovation and is a consequence of the work environment. This study, which has taken place in a SME in Turkey, states that the work environment and empowerment are closely related to innovation, it also shows that the work environment has a direct impact on the innovation capacity of a society or an organization and how it should be initiated from the top managers down. This study also indicates that SMEs that are involved with activities that strengthen empowerment increase the innovation capacity.

On the other hand, Li et al. (2011) present some studies related to KM and innovation in Chinese SMEs. One of them is described by Yang et al. (2006) where the positive influence of knowledge acquisition over high technology innovation capacity in Chinese enterprises. Also Huang et al. (2004) found that based on the strengthening of the capacities of the organization, especially the SMEs ones, it acquires/absorbs technologies and know-how in order to support the technological innovation.

Venugopal and Priya (2015) describe the case of an insurance company that faces problems related to the employees and the service providers they offered. This bad relationship conducted to a decrease in the loyalty that had an effect on retention. The lack of customer retention leads to a decrease on the business profitability. This study shows some innovation strategies that solved the causes of the different perceived expectations of quality service, in addition to using modern technologies that benefited customers and convenient ways to access the service. Although this study is limited to clients in the insurance industry, it can be extended to other service sectors to improve the relationship between employees and customers, so that they can increase employee productivity in the retention of loyal customers.

## **3. PROPOSED MODEL**

One of the main competitive advantages of enterprises is the quality of customer service (Venugopal and Priya, 2015), so strategies should be defined to improve and maintain existing customers. Innovation allows the continuous improvement and renovation of the processes and products for the benefit of all the areas of the company. Strategies may vary by product, production process and strategic abilities (Thomas et al., 2015). The organizational learning and the work environment have a significant influence in the behavior formation for innovative work. Thereby, SMEs must make an effort to increase the innovation of their employees with the purpose of improving the performance of the organizational innovation and competitiveness (Awang et al., 2014).

Organizations use KM to cope with the challenges and make new products and services, in order to obtain an efficient behavior of the employees. KM turns into a successful practice if it belongs to the general culture of the organization and through its application intangible capital can be obtained keeping the success of the company (Duică et al., 2010).

Youngwirth (2011) states that through the documentation of core processes of the organization, you can ensure that all employees understand their functions and how they intertwine with the work of others, favoring a transparent experience for customers; promote coherence, reduction of error possibilities, and possibly, the operation costs of an

organization; lessen the training load when staff turnover exists; and trigger continuous improvement. The success of a core process is essentially based on collective learning and the creation of knowledge among stakeholders (Pekkarinen and Harmaakorpi, 2006).

It is also important to consider that the innovation strategies take into account the application of new work methods, generation and presentation of new ideas, a question approach and enter unexplored areas, find new solutions and create a vision of the future (Savaneviciene et al, 2014). The motivation to innovation can come from the desire to reduce process/service time or being a low cost producer, from changes in customer requirements or from the need to reduce service costs (Davenport 1993). Some of these elements are also present on the SMEs dedicated to the marketing of the products.

Considering what was previously stated, figure 1 shows the proposed model based on core processes and knowledge management in order to facilitate various innovation actions, with the aim of improving the customer service and work environment within a trading company.

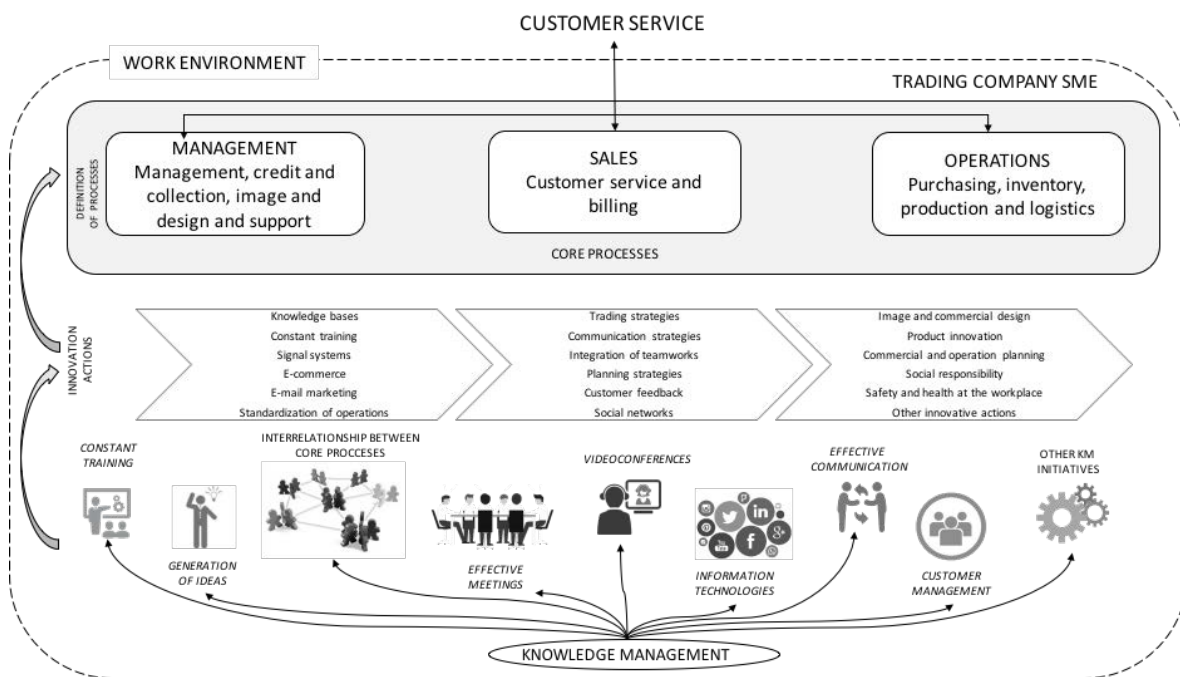


Figure 1. Model based on core processes and knowledge management to promote innovation

The core processes in this type of companies are mainly grouped in: administration, sales and operations as mentioned by Piercy (2009), noting particularly the importance of sales and operations as generators of the main value in small companies. These core processes must be clearly defined so that the objectives are reached and have a high impact in the organization. Each of them is described next: MANAGEMENT is responsible for managing all the resources of the organization, whether they are material, economic or personal ones. SALES is responsible for clients prospecting, keeping of existing customer and the creation of new clients. It works to meet monthly and annual sale goals. In this process the main direction of the company is set. OPERATIONS is in charge of the purchasing, inventory, production, storage, and delivery of the product activities. Here is where all the logistics of the company are included.

This model proposes the application of different KM initiatives (strategies aimed at preparing and training staff members in good practices for leveraging organizational knowledge) in core processes to create conditions to later facilitate innovation among collaborators and directly favor the improvement of customer service and the work environment. KM initiatives must focus on core processes because they are the moving force of the organization, and are essential to the operation of the company. If they are strengthened by innovation actions, they will positively impact customer service and the accomplishment of their necessities, which would benefit the productivity of the company. Some KM initiatives that can be applied are: *constant training* that consists on defining a training program that meets the specific requirements of knowledge for each area, promoting the development of different competencies; *Generation of ideas* that seek to promote the employee to generate innovations and improvements in their area of work, in order to assert their knowledge, feel valued at work and in turn become more productive; *Effective meetings* generated by area of work, with specific topics, with the aim of improving communication, problem solving and increase feedback; *Interrelationship between core processes* that is the promotion of the working relationship of different areas in order to obtain integral results; Videoconferences which are a tool that is utilized to improve both the internal staff and final customer communication; *information technologies* that has to do with using new technologies, including social networks to make themselves more visible to the customer and be present in the online market. Commercial and institutional videos that promote the relationship with the client and the knowledge of the institution can be included; *effective communication* to promote communication between the members of the company, to improve the relationship between collaborators, leaders and management; *customer management* is the administration of customer based on the relationship with the clients and improve the opportunities of new sales and good maintenance of the existing ones.

With the support of these and other KM initiatives, some innovation actions can be reached such as: knowledge databases, constant training, signaling and signage systems, e-commerce, e-mail marketing, standardization of operations, communication strategies, integration of work teams, planning strategies, customer feedback, social networks, image and commercial design, product innovation, commercial planning, operations planning, social responsibility, safety and health at the workplace, among other innovation actions.

#### **4. MODEL IMPLEMENTATION**

To implement the model based on core processes and knowledge management that facilitate innovation in a company, the methodology is shown in Figure 2 and consists of five steps: identification of main areas of need, preparation and implementation of KM initiatives, proposal of actions of innovation, execution of innovation and, finally, evaluation and execution of results.



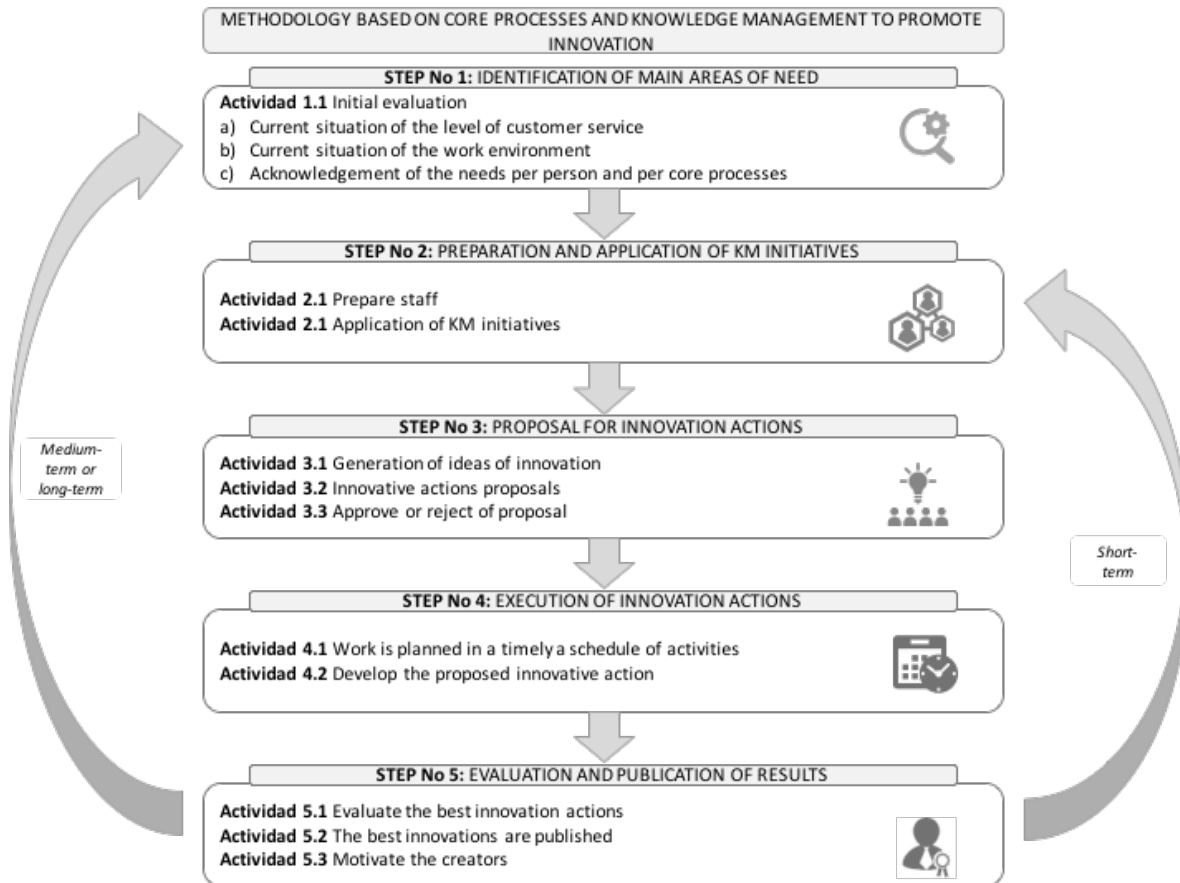


Figure 2. Methodology based on core processes and knowledge management to promote innovation

Next, an explanation of each of the steps of the methodology and how they are done is shown.

**Step 1. Identification of main areas of need:** This step identifies the main areas of opportunity for improvement in the different core processes. This information is obtained through various information surveys such as: current situation of the level of customer service, current situation of the work environment, and acknowledgement of the needs per person and per core processes to identify the specific problem of the company.

**Step 2. Preparation and application of KM initiatives:** In this section, various activities are carried out to promote and prepare staff through various KM initiatives which facilitate the implementation of innovation actions applied to core processes. Some KM initiatives to carry out are: training of all the members of the organization, effective meetings of leaders and by areas of work, the use of information technologies as a communication enabler, customer management, among others.

**Step 3. Proposal for innovation actions:** Once the main areas of improvement and participation in different KM initiatives have been identified, the collaborators generate various innovation proposals and improvements to eradicate the specific needs presented in the core processes of the company. This proposal can be digitally made and directed to its team leaders. In this document the collaborator proposes a name to his idea of innovation, defines the current situation, explains his proposed solution, the justification and importance of the implementation, the impact and the resources required. The leaders of

each area analyze each proposal to approve or reject its implementation according to the resources required and the necessity to be covered.

**Step 4. Execution of innovation actions:** Once innovation is authorized, work is planned in a timely manner through a schedule of activities to develop the proposed innovation action. These periods can be monthly, quarterly or semi-annual according to the required time. Innovations can also be worked on as a team, justifying the participation of each member.

**Step 5. Evaluation and publication of results:** The company will determine a period of time to evaluate the best innovation actions by core processes, they are evaluated according to the impact and use that was obtained when applying them. The company can create groups of people from different areas to carry out such evaluations including management, area leaders and collaborators in general. Subsequently, the best innovations are published. The company can motivate the creators of the best innovations applied in the established period to reward their performance.

At the end of the evaluation and publication of the results corresponding to step No. 5, a short-term time is determined to restart the cycle in step No. 2 for the new preparation and implementation of KM initiatives. Then, a medium- or long-term time stipulated by the company is determined to carry out a new initial evaluation corresponding to step No. 1 on the identification of main areas of need, thus measuring in a cyclical way a current state of the evaluated variables on the possible impact in the core processes, work environment and level of customer service.

## 5. CASE STUDY IN A MEXICAN CLEANING COMPANY

The model and methodology here proposed, based in core processes and KM to ease innovation, were implemented in a trading company located in the Northeast of Mexico. As previously explained, this enterprise is dedicated to the commercialization and distribution of cleaning products. The company accounts for a total of 35 collaborators in 5 points of sale; 2 franchises, 2 branches and 1 distribution center.

A prevalent confusion existed in this company in terms of the definition of the main working processes, job description and responsibility approaches, leading to a hostile work environment and damaging the quality of the customer service, plus, a deficient communication among collaborators, points of sale and clients.

The implementation of a methodology in this Mexican trading company is presented below. The implementation started on the last trimester of 2013 and it is still taking place. Due to the cyclic nature of the methodology, we decided to make a report for the last trimester of 2013 to the first semester of 2016 to be shown in this article.

**Step 1. Identification of the main improvement areas:** in order to identify the main improvement areas of the enterprise, some strategies were carried out. These strategies include *the evaluation of the service level* that consisted in applying an evaluation tool to the main customers in order to identify the main problems related to service level. Another strategy was *the evaluation of the work environment* in which the relation among collaborators, leaders, and work conditions among other indicators were analyzed to help identify main failures within the organization. Another tool was the acknowledgments of the necessities by person and by area. This tool consisted in the proposal of each collaborator to the solution of specific individual or area problems.

**Step 2. Preparation and application of KM initiatives:** in order to promote KM initiatives and to prepare the personnel in the company under scope, a competence-based

training program divided in 4 training cores was developed. These cores were generic competences, basic competences, specific competences and optional competences. Organizational and individual knowledge was developed in this program in order to create new knowledge, transfer the already existing knowledge and generate innovating ideas able to positively impact on the relationship with the client and the working environment. Another initiative was the so-called *effective reunions* with the working teams mainly from the sales department, operations and administration of core processes of the company. Plus, reunions with the area leaders were carried out in order to direct their team and generate new proposals for improvement and innovation. Another initiative was the *use of information technology* as a key tool to save and transfer knowledge, its main role was to improve communication among working areas.

**Step 3. Proposal of innovating actions:** In this enterprise, a call to put forward proposal for innovating actions was organized every month. These proposals were presented in a document with the following information: innovation name, the core process this innovation would impact to, the objective, the justification and the activity planning. Every area leader would analyze every proposal to either approve or reject its implementation according to the required resources and the need to be fulfilled. Some of the accepted and implemented innovating actions include: knowledge bases, constant training, signaling systems and signage, e-commerce, e-mail marketing, standardization of operations, commercialization strategies, working team integration, planning strategies, customer feedback, social networks, image and commercial design, product innovation, commercial planning, operation planning, social responsibility, safety and work health among other innovating actions.

**Step 4. Execution of innovating actions:** Once the innovating action was authorized and the needed resources negotiated, the collaborators would work according to a chronogram in order to develop the innovating action being applied to their corresponding core processes. The reports were monthly due, even though some of them would take a longer time, especially those ones having an impact on the selling and operations processes. Innovating actions were presented individually or as a team, in which case the actions to be fulfilled by each member would be point out in the chronogram of activities justifying in that way their own participation.

**Step 5. Evaluation and publication of results:** The time to evaluate the actions was set by the company to be monthly. Every month or every time an innovating action was carried out, an evaluation process was performed for all the innovating actions and improvements made by the core process. In order to assess this, 4 people from different areas were chosen. The criteria used in the measurement tool were: *originality, economic feasibility, technical viability, positive impact on the external and internal customer and savings and profits for the company*. The enterprise would select the three best actions to be posted on the bulletin boards of each branch, on internal e-mailing and social networks of the company. The company granted an incentive, a bonus and a free Saturday every month for each collaborator who took part in the innovation.

After step 5, a monthly period to start the new cycle in step 2 was determined in order to prepare and apply new KM initiatives, while a new initial evaluation in step 1 was performed every six months. New areas of need were identified measuring this way a cyclic current state of all the evaluated variables on the impact over core processes, work environment and the level of customer service.

## 5.1 Study results

With the application of KM initiatives as support to the developing of innovating actions in core processes, the levels of work environment and customer service were improved. The general results for the first trimester of 2015 were:

### 5.1.1 Results on the core processes

177 innovating actions were received in total from collaborators within the company, 146 of which were implemented, 20 are still in process of elaboration and 11 were not put to practice. The general percentages are shown in figure 3.

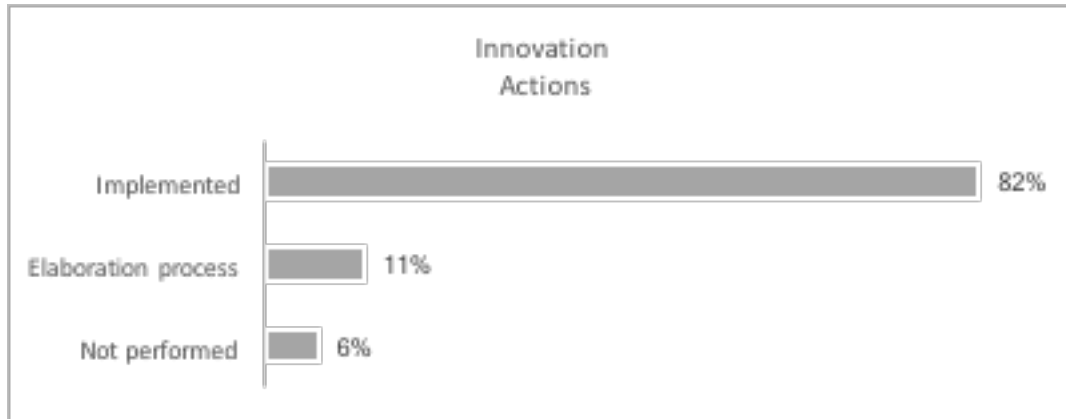


Figure 3. Graph of percentage of innovating actions

The results for each of the core processes were:

*Administration process*: 54 innovating actions were received in this area, 51 of which were implemented, 1 is still in process of elaboration and 2 were not put to practice. The vast majority of the actions were focused on the standardization of administrative and support operations. The specific actions are shown in figure 4.

| INNOVATION   | No OF INNOVATIONS | INNOVATION                    | No OF INNOVATIONS |
|--|-------------------|-------------------------------|-------------------|
| Standardization of administrative and support operations | 19                | Integration of work teams     | 2                 |
| Information technologies                                 | 8                 | Internet administration       | 1                 |
| Constant training  | 6                 | E-commerce: online catalogs   | 1                 |
| Social commerce: social networks                         | 4                 | E-commerce: youtube           | 1                 |
| Communication strategies                                 | 3                 | Customer feedback             | 1                 |
| Planning strategies                                      | 3                 | Reengineering operations      | 1                 |
| Standardization of operations to costumer                | 2                 | Social responsibility         | 1                 |
|  |                   | Signaling and signage systems | 1                 |

Figure 4. Innovating actions in the administration core process

*Selling process*: The total number of innovating initiatives received during the selling core process was 80, 60 of which were implemented, 14 remained in the elaboration process and 1 was not carried out. Most of the initiatives were focused on the standardization of selling processes, commercial planning and CRM. The specific actions are shown in figure 5.

| Innovative actions for the key processes of Selling |  |                   |   |  |                   |
|---|--|-------------------|---|--|-------------------|
| INNOVATION  |  | No OF INNOVATIONS | INNOVATION                                |  | No OF INNOVATIONS |
| Standardization of selling processes                |  | 18                | Constant training                         |  | 3                 |
| Commercial planning                                 |  | 13                | E-mail marketing                          |  | 3                 |
| Customer management                                 |  | 10                | Pricing strategies                        |  | 3                 |
| Trading strategies                                  |  | 5                 | Social responsibility                     |  | 2                 |
| Image and commercial design                         |  | 5                 | Signaling and signage systems             |  | 2                 |
| Customer feedback                                   |  | 4                 | Information technologies                  |  | 2                 |
| knowledge databases                                 |  | 3                 | Warehouse design and distribution         |  | 1                 |
|   |  |                   | Standardization of operations to costumer |  | 1                 |

Figure 5. Innovating actions in the selling core process

*Operation process*: in this core process, 43 innovating initiatives were received, 35 of which were implemented, 5 remained in the elaboration process and 3 were not performed. Most of these initiatives focused on safety and health in the workplace, standardization of operation processes and warehouse design and distribution. Specific actions are shown in figure 6.

| Innovative actions for the key processes of Operation |  |                   |                           |  |                   |
|---|--|-------------------|---------------------------|--|-------------------|
| INNOVATION  |  | No OF INNOVATIONS | INNOVATION                |  | No OF INNOVATIONS |
| Safety and health at the workplace                    |  | 12                | Social responsibility     |  | 2                 |
| Standardization of operation processes                |  | 9                 | Constant training         |  | 1                 |
| Warehouse design and distribution                     |  | 5                 | Customer feedback         |  | 1                 |
| Signaling and signage systems                         |  | 5                 | Global positioning system |  | 1                 |
| Operations planning                                   |  | 3                 | Product innovation        |  | 1                 |
| Communication strategies                              |  | 2                 | Information technologies  |  | 1                 |

Figure 6. Innovating actions in the operation core process

The results in reference to innovating actions on core processes have to do mainly with the standardization of operations, strategic planning, the use of new information technologies and constant training, all of which influence the improvement in the work environment and the level of customer service.

### 5.1.2 Impact on work environment

The results on the evaluation of the work environment of the company are shown below. This evaluation was aimed to collaborators in order to identify the main areas of opportunity to improve within the organization. A measurement was conducted in order to know an initial state to measure the possible impact once the KM initiatives and the innovating actions were applied. In order to evaluate the work environment, some surveys were applied on the collaborators, these surveys had a series of questions to assess variables such as: process standardization, equipment and tools, decision making, leadership, management, fraternity, professional challenges, improvement proposals, teamwork, professional development, salary and benefits, future within the organization, work environment. a Likert scale was used (Bad=1, Fair=2, Good=3, Very good=4, Excellent= 5). The maximum possible number was 90 points for the initial evaluation and 65 points for the final evaluation. There were also open questions for comments and suggestions whose answers were analyzed separately. The difference in maximum scores in both surveys was due to the fact that after the initial evaluation was applied and the answers were analyzed, it was observed that some questions could be put together and/or be

eliminated. Therefore, it was decided for the final evaluation to decrease the number of questions without altering the number of variables being measured.

*Initial evaluation of the work environment:* this first evaluation was applied at the beginning of the implementation of the methodology. The survey was applied anonymously by means of a technological platform to 19 collaborators in the last trimester of 2013. The mean score was 56 points, that is, 62% of the level of work environment.

*Final evaluation of the work environment:* this second evaluations was applied 8 trimesters after the beginning of the methodology, plus, the survey was applied anonymously by means of a technological platform to 17 collaborators in the last trimester of 2015. The mean score was 49 points, that is, 75% of the level of work environment.

This shows that an improvement in the work environment of 13%, getting a positive impact on the innovating initiatives for the core processes and support to improve the work environment of the enterprise.

Some of the comments mentioned by collaborators in the surveys of the last evaluations refer to an improvement on the professional development within the company, the standardization of some operations, better fraternity, which reflects on a higher satisfaction for being part of the company and be part of it in the future. It was also recommended to continue improving on teamwork, to improve the tracking of problem solutions and greater leadership.

### **5.1.3 Impact on the service level**

The customer service evaluation process and its results are described below. This evaluation was aimed to core clients with the objective of identifying the main areas of opportunity to improve the customer service level.

In order to evaluate the service, surveys were applied to clients with a series of questions assessing variables as advising, service and customer tracking, call reception, billing, availability and delivery of material, credit and collection, variety and product innovation and social responsibility. A Likert scale was used with values of Bad=1, Fairly=2, Good=3, Very good=4, Excellent=5. The maximum possible value was 15 points for the first evaluation and 25 points for the second evaluation, there were also open questions for comments and suggestions whose answers were analyzed separately. The difference between maximum scores in both surveys was due to the fact that the after the initial evaluation was applied and the answers of the open questions were analyzed some specific aspects had to be known regarding the service offered to clients. Therefore, the number of questions in the final evaluation was increased without changing the number of variables being evaluated.

*Initial evaluation of the customer service level:* these first evaluations were applied at the beginning of the methodology. The surveys were applied over the phone to a total of 32 companies during the last trimester of 2013. The mean score was 12 points, that is, 80% of customer total satisfaction.

*Final evaluation of the customer service level:* this second evaluation was applied 4 trimesters after the beginning of the methodology; the survey was also applied over the phone, to a total of 11 companies during the last trimester of 2014. The mean score was of 22 points, that is, 88% of the customer total satisfaction.

These data show an improvement in the service level of 8% with a positive impact on innovating initiatives for core processes and support to improve the service level.

Some of the comments expressed by clients in the second evaluations refer to an improvement in terms of service and call reception, service and tracking being offered, better delivery time control, the creation of a catalogue of products, a remarkable improvement in credit and collection, making emphasis on a constant improvement in the service, more training for clients, focusing on keeping the existence and variety of products and the delivery time.

## **6. CONCLUSIONS, DIFFICULTIES AND RECOMMENDATIONS**

The main conclusions of the study are given below, some of the difficulties found during the implementation of the methodology and some recommendations for these companies that want to implement them within their organizations.

### **6.1 Conclusions**

The application in the company of several KM initiatives as: *constant training, generation of ideas, effective reunions, interrelations among core processes, conferences, information technologies, effective communication, customer administration*, among others, led to a great positive impact for collaborators and leaders to develop and execute innovating actions such as: *knowledge bases, constant training, signaling and signage systems, e-commerce, e-mail marketing, standardizations of operations, commercialization strategies, communication strategies, teamwork integration, strategy planning, customer feedback, social networks, commercial image and design, product innovation, commercial planning, operation planning, social responsibility, work safety and health* among other innovating actions for core processes.

Up to this point, a total of 177 innovating actions have been received from the personnel, 146 of which were implemented, 20 are still in the process of elaboration and 11 were not put in practice. Plus, innovating actions led to an improvement in the work environment within the organization with a growth of 13% in satisfaction among collaborators, positively affecting the standardization processes, equipment and tools, decision making, leadership, management, fraternity, professional challenges, improvement proposals, teamwork, professional development, salary and benefits, future within the organization and work environment in general. A growth of 8% was observed in the satisfaction of the customer service level, impacting favorably on *advising, customer service and tracking, call reception, billing, existence and delivery of material, credit and collection, product variety and innovation, and social responsibility*.

It can be concluded that in a commercial sector SME several KM initiatives can be implemented in order to promote the constant generation of innovating actions for their core processes. Both the work environment and final customer satisfaction can be positively impacted, current clients can be maintained and possibilities to attract new ones are created. There is an improvement in the professional and personal development when a collaborative environment is created to openly generate innovating ideas in each working area within or outside the enterprise.

### **6.2 Main difficulties**

Among the main and/or barriers found in this company we can mention:

*Leadership*: it is true that the commitment of the very team leaders represents one of the main advantages to develop KM initiatives and innovating actions, it also could be one of the main barriers for their successful implementation. The lack of commitment and interest

of some work leaders could make their team not to carry out proposals or not to take part in activities generating continuous improvement within the organization, resulting in some cases in dissatisfaction towards leadership and an inadequate work environment.

*Resistance to change.* Another main barrier present in some collaborators was to oppose to do new things apart from their daily activities. The resistance to new work styles, especially the use of information technology and the time devoted to the elaboration of innovating actions.

*Resource.* The lack of resources could be a barrier, since the absence of financial or knowledge resources made the acceptance of some proposals or innovating initiatives impossible.

### **6.3. Recommendations**

Some recommendations that should be taken into account by other organizations willing to implement this methodology are shown below.

*Constant training:* it is recommended to constantly train leaders and collaborators about the importance of innovation and continuous improvement within the company, and also in topics related to the new knowledge era, application of strategies in the company as KM initiatives and to get to know all the advantages that can applying constant innovating initiatives and its influence in the work environment and final customer satisfaction.

*Knowledge manager:* it is recommended for a person to be in charge of the functions of a knowledge manager within the company who administers all the KM initiatives and innovating initiatives for core processes. This person can perform any other function in the enterprise, but he has to be directly related to the organizational development of the company, plus, he must be supported by the management, since these initiatives and actions must be administered for their impact to continue in time.

*Technological platform:* to have a technological tool to determine a better way to manage the KM initiatives and innovating actions. This will allow to more precisely impact over the core processes of the company by means of KM and innovation. Its feasibility can also be evaluated, besides the ability of managing the generated information and supporting future project.

*Resource management:* it is recommended to make us of the different government programs and research and technology development centers supporting this economic sector in this country. These centers can provide economic resources and generate new knowledge and have support specialists and researchers on the topics of interest of the company.

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