

Factors that Influence Competitive Knowledge Management in Automotive Sector MSMEs

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Abstract

How can be identified and characterized the factors that influence the competitive knowledge management through the transfer of knowledge in the automotive sector MSMEs? It is the central question taken from the theoretical proposals for knowledge management, competitiveness and MSMEs. The goal is to generate frontier knowledge in the identification and characterization of the factors that influence the competitive management through the transfer of knowledge to strengthen competitiveness and contribute to improved processes of MSMEs in the automotive sector, to approach the qualitative research method is used and proposed a scheme through a defined and supported knowledge transfer methodology helps to strengthen the competitiveness of MSMEs is done, to later obtain the results and generate the subsequent conclusions that are mentioned.

Knowledge Management, Competitiveness, MSMEs

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1. Introduction

When organizations are influenced by the global context in which they develop, which implies that the events that occur in one part of the world affect all other organizations in other distant parts: ideas and knowledge, goods and services, they cross borders easily (Stiglitz, 2006). That is why they must be in a constant search to have superior and competitive advantages, through this search, realize that the essential basis to compete successfully at national, and international level is the knowledge generated in the organization and employees .

Davenport and Prusak (2001), mention that "knowing about knowledge is essential for success in business" (p.13) What is it that leads to think that knowledge management is indispensable in other structural forms such as companies? Knowledge is the guiding axis of the activities that are carried out within an organization, although in some cases it is an action that goes unnoticed, but managing the knowledge of the people to turn it into an institutional knowledge drives the development of the organization by raising its competitive potential; this action is the primary objective of knowledge management. Companies of a transnational nature respond to globalization processes by mobilizing knowledge beyond national borders, they are integrated by organizations from developed and underdeveloped countries. The rapidity with which they have access to knowledge and technology from developed countries promotes the pace of growth in developing countries.

1.1. Justification

When organizations are influenced by the global context in which they develop, which implies that the events that occur in one part of the world affect all other organizations in other distant parts: ideas and knowledge, goods and services, they cross borders easily (Stiglitz, 2006).

That is why they must be in a constant search to have superior and competitive advantages, through this search, realize that the essential basis to compete successfully at national, and international level is the knowledge generated in the organization and employees.

1.2. Problem

Knowledge management considered as the ability to direct people who possess professional knowledge and personal wisdom (intellectual capital); It depends on the factors of culture, products, processes, customer relations. The organizations that apply the concept of knowledge management require the development of strategies, processes, procedures and instruments that facilitate the creation, assimilation, dissemination, use, access and quality of the accumulated content, having as main concern the anticipation of data that can be strategic for the growth and survival of the company

The problem that arises is that a large part of the MSMEs suppliers of auto parts in San Juan del Rio do not manage the knowledge within their organizations, which puts their survival at risk especially in an increasingly competitive environment in which solidity of the company is fundamental for the confidence and certainty of the clients who increase their level of demand and seek competitive and differentiating advantages between the companies of the same line of business to choose them as suppliers.

1.3. Hypothesis

The identification and characterization of the factors that influence competitive management through the transfer of knowledge in MSMEs can contribute to their management, efficiency and competitiveness processes.

1.4 Objectives

1.4.1 General Objective

Generate frontier knowledge in the identification and characterization of the factors that affect competitive management through the transfer of knowledge that allows the strengthening of competitiveness and a contribution to the improvement of the processes of the MSMEs in the automotive sector.

1.4.2 Specific Objectives

- Review the aspects of greatest incidence to generate, acquire and transform knowledge.
- Differentiate the factors that condition the learning of the suppliers of auto parts
- The impact of knowledge management on the competitiveness of MSMEs
- Knowing how knowledge management is used in the MSMEs
- Evaluate the types of recognitions and the importance of acknowledgments in Knowledge Management.
- Increase competitiveness through knowledge management methodologies.

2. Theoretical framework

Davenport and Prusak (2001) point out the following knowledge: "It is a fluid mixture of structured experience, values, contextual information and expert internalization that provides a framework for the evaluation and incorporation of new experiences and information. It originates and is applied in the minds of connoisseurs. In organizations, it is often not only rooted in documents or databases, but also in their routines, processes, practices and institutional rules "(page 6).

Maurice Merleau-Ponty in 1945 presented two important works: "The structure of behavior" (written in 1942) and "The phenomenology of perception", which analyzes the issues that overcome the benefits of reflection and the requirements of philosophy of consciousness. Bech (2005) thinks that Merleau-Ponty mentions that no truth is absolute or temporary. The thought is the connection between the conscience and the world, the senses are the diverse forms that a person has to develop the organization in the structure of the company.

The objective of this work is to present the intellectual and empirical concepts of perception, in order to make it known as it is perceived in itself. For phenomenology "the universal structures that govern what can be thought and known are the mundane existence of the human being capable of converting a purely spatial object into the talking trace of an existence. So the only transcendental root for knowledge is the "primordial knowledge" sedimented in experience and latent in the perception of the world "(p.35).

Sartre emphasizes that man begins to exist, develops, flourishes in the world and then defines himself. Affirms that: "To exist, man has the requirement to know and act. All action is knowledge and all knowledge is action. The condition to be free is to generate a set of truths. If man does not build his world, he will be swallowed up by inertia and fatality "(Armau, 1993, p.241).

There are two philosophical currents of the twentieth century: the phenomenological and that of existentialism. The foundation of the phenomenological current is: "Knowledge can be obtained through reflection". (Nonaka and Takeuchi, 1995, p: 29), and that of existentialism in: "if we want to know the world, we must act by pursuing an end".

This current highlights the relationship between knowledge and action, and is responsible for investigating individual human existence and experience. When I start the improvement of processes and systems in companies, knowledge management is born with the objective that the intellectual capital of a company is increased considerably by managing the ability to solve problems efficiently.

The intellectual capital that creates value in a company helps the search for knowledge by discovering domain, dexterity, aptitude and particular knowledge in the organization. The search for knowledge aims to return people the ability to think and self-organize, with the aim of improving and creating new ways to achieve leadership and confidence in the staff, reflected in advanced information systems, motivation, remuneration and in the creative use of information technologies.

It is mentioned that knowledge management is defined as: "The ability to take information that has been stored positively in the minds of people and make it public, actionable, useful and explicit" (Papows, 1999, p.174). Benavides and Quintana (2003) define it as: "an emerging discipline that provides the accepted methodologies and guidelines for action, which defines the concepts, integrating approaches and methods in a coherent and global way, to provide clues about the practices to be followed in the effective and efficient administration of its essential resources" (p.29).

Therefore, knowledge management is the ability to direct people who possess professional knowledge and intellectual capital, depending on factors such as: culture, products, processes and customer relationships.

Organizations that intend to develop knowledge management should implement strategies, processes, procedures and instruments that help the creation, assimilation, propagation, use, access and quality of content, being the main concern the anticipation of strategic data for the growth and survival of the new company. The concept of knowledge management is defined with which to work, such as the process of identifying, selecting, storing, transferring and using knowledge (information and people), in order to improve competitiveness.

Knowledge and Organizations

Intellectual capital

Definitions and descriptions of "Intellectual Capital" from some specialists in the subject:

- "It is to accumulate the knowledge of all the members within a company, creating a line of competitiveness for it." (Stewart, 1999, p.37) It is the knowledge, applied experience, organizational technology, consumer relations and business contacts that the organization has and that allows to reach an advantageous position in the market "(Pérez, G and Bustamante, I, 2000, p.49).
- "It is composed of Human Capital and the Knowledge Capital. Human Capital comprises individual human talents and knowledge acquired through education, expert training and cognition. The Knowledge Capital is the documented one, available in the form of research papers, reports, books, articles, manuscripts, patents and software." (Nasseri, T, 2006).
- "It is the value of the relationships of an organization with its clients, including the intangible loyalty of the clients towards the company or product, based on the reputation, purchase patterns, or the customer's ability to pay.." (Davenport, T, 1999).

The definition presented by Smith summarizes the general ideas of all the definitions studied. Intellectual Capital: They are divided into three categories: Human Capital, Structural Capital and Relational Capital. Which allow to generate answers to market needs and help to exploit them.

Creation of organizational knowledge

It is all that intellectual capital existing and shared in the organization (Nonaka and Takeuchi 1995, and Prusak, 2001). Directing it and establishing the methodology to follow with the objective of keeping the knowledge stored and that this can be used in the present and documented with the new knowledge creating the so-called organizational memory. (Cross and Baird, 2000: 69). Nonaka and Takeuchi (1995) establish four key factors around the creation of organizational knowledge: Intent, autonomy, fluctuation and creative chaos and redundancy. It is worth mentioning that these factors are important as part of the culture of the organization for which it is important to know what the organizational culture is, how the learning strategies are defined and that it is used as a tool for daily work.

Conversion of knowledge

In the model of the organizational knowledge creation spiral of Nonaka and Takeuchi (1995), taken up by Mintzberg et. al., (1997) and Choo (1998) the following forms of knowledge conversion occur. Socialization belongs to the theories of group processes where experiences are shared giving way to the creation of tacit knowledge; acquiring it through the experience of other people without using the language.

In the externalization process, tacit knowledge is named in the form of explicit concepts. Adopting the form of metaphors, analogies, concepts, hypotheses or models; forming the conceptual knowledge turning it into a guide to create systemic knowledge through the combination; In turn, systemic knowledge becomes operational knowledge as it is internalized in the organization generating a new cycle of knowledge creation.

The members of the organization exchange and combine knowledge through documents, meetings, telephone conversations or computerized communication networks to obtain a product (book, manual). The reconfiguration of existing information is carried out by classifying, adding, combining and categorizing explicit knowledge; all this leads to creating systemic knowledge. For Nonaka and Takeuchi (1995) the organization has the function of providing the appropriate environment in the process of knowledge creation in order to facilitate group activities, the generation and collection of knowledge at the individual level. There are five primordial conditions to originate the environment: intention, autonomy, fluctuation and creative chaos, redundancy and variety of requirements (Senge, 1998, p.53). Intent: The desire that a company has to achieve its goals; accepting the way strategies have to develop organizational capacity by acquiring, creating, accumulating and exploiting knowledge.

Autonomy: the members of an organization act as autonomously as possible, motivating themselves, facilitating the creation of new knowledge. Fluctuation and creative chaos: when fluctuation is introduced in an organization its members face a rupture of routines, habits or cognitive frameworks so this condition is elementary to encourage the spiral of knowledge, stimulate the interaction of the organization and the environment external.

Creative chaos can be generated intentionally when a sense of crisis is evoked among the members of the organization setting challenging goals. Redundancy: is the existence of information that goes beyond the immediate operational requirements of the members of the organization; refers to intentionally emphasizing information about activities, administrative responsibilities and the organization as a whole.

Variety of requirements: Everyone in the organization should have quick and easy access to the information they need. For Drucker (1992) intellectual knowledge is an intangible resource for any organization cannot be inherited or bequeathed: each individual within the organization must acquire it, therefore, the basic resource is and will remain the knowledge.

The cultural influence on Organizational Knowledge

The organizational culture is as significant as the way of understanding the richness and variations of organizational life; it is integrated by the way in which the world is interpreted and the activities that manifest that world (Alvesson, 2002). These interpretations are shared collectively in a social process where there are no private cultures, although some activities are individual and their scope is collective.

It perceives culture as "a world shared and learned from experiences, meanings, values, and interpretations that are used to inform people, express themselves, reproduce, and communicate partially in a consistent symbolic way" (p. 6). Culture is: "a pattern of basic conjectures that are shared, that is invented, discovered or developed by a given group, as it learns to face its problems of external adaptation and internal integration and that has worked well enough to be considered valid and, therefore, be taught to new members of the group as the correct way to perceive, think and feel in relation to these problems "(Choo, 1998, p.103).

Schein (2004) defines culture as "a pattern of basic ideas, whether invented or discovered or developed by a given group while learning to overcome its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way of perceiving, thinking and feeling in relation to those problems "(p.17).

The determinants that Davenport and Prusak (2001) consider fundamental for knowledge to transfer efficiently are the norms, values and behaviors that make up the culture of a company; so the collective knowledge is associated with the organizational culture where in the mind of the organization are shared convictions that are reflected in traditions and habits.

Knowledge management is also responsible for creating an appropriate culture, identifying knowledge requirements, capturing external knowledge, assimilating and appropriately using knowledge: it concerns the development of processes, instruments and organizational culture to promote the creation and distribution of knowledge (Benavides and Quintana, 2003). Davenport and Prusak (2001) point out that when it is necessary to transfer knowledge, methods must always be adapted to the culture of the organization; the values, behaviors and norms that make up the culture of the organization determine the effectiveness of knowledge transfer. The cultural factors that the organization must strengthen are: develop relationships of trust; create a common interest through training, dialogues, publications; teamwork and work rotation; establish places and times for knowledge transfers; evaluate performance and provide incentives based on the attitude of sharing; educate employees for flexibility; promote a method of knowledge without hierarchies; accept and reward creative mistakes and collaboration.

Competitiveness

A way of understanding the company, consistent with the definition: "a productive process through which resources are transformed into salable goods with generation of added value and benefits" (Fea, 1995, p.39)

Where:

- Productive process: The organization of means and systems to obtain a product.
- Resources: The activity of the entrepreneur, work, social structures, capital, materials.
- Transformation of salable goods: The product has characteristics apt to satisfy the needs of the client.
- The competitive company is the one that manages to maximize the quality of each of the factors mentioned above, because it has:
 - An optimal production process
 - Excellent resources
 - High quality of the transformation process
 - Considerable generation of added value
 - Outstanding product quality and cost minimization

According to Fea (1995) competitiveness is: "the structural capacity of a company to generate profits without continuity solution through its productive, organizational and distribution processes" (p.47)

Where:

- Structural capacity is a direct function of its strategic principles, the cognitive baggage of its human factor and its organization.
- The monitoring of the generation of benefits and of the company itself is directly proportional to its structural dynamism.

- The level of competitiveness of a company is always defined by its intrinsic "way of being" within a certain socioeconomic context.

Three points are mentioned:

1. Competitiveness is then an internal characteristic of the company system.
2. A market, or better a sociopolitical and economic environment, defines the temporal level of its intrinsic competitive capacity.
3. An organization or company has continuity only if it is capable of constantly adapting to the new environmental conditions.

If these are the basic conditions that define the company's own competitive capacity, since the achievable results are conditioned by the market in which the activity is carried out, the situations in which the company can be found with respect to said market are also examined:

- Leading Company: the one that dominates a certain market because its capacity for innovation is higher than the average level expressed by the competition.
- Competitive company: the one that maintains its vital parameters above the average level of the market.
- Company in crisis: the one that suffers from a shortage of competitive capacity.
- Company in an agonizing state, which suffers a structural deterioration of its vital functions.

The International Institute for Management Development mentions that competitiveness is the ability of a country or company to proportionally generate more wealth than its competitors in international markets.

Another accepted definition that seeks to cover all these aspects mentions that competitiveness is the ability of a country to participate in international markets in a sustainable manner and with a tendency to increase, with a rise parallel to the level of the population.

Porter (2009), professor of the Business Administration Chair C. Roland Christensen, at the Harvard Business School, tells us two definitions of competitiveness, one in relation to the business unit and another at the country level. For Porter (1989), "the competitiveness of companies is the ability to be a leader in costs, offer differentiated products and have the ability to serve segments of specialized markets."

At the country level, Porter (2009) associates competitiveness with the quality of national production factors related to the structure of costs to do business. Esser, et al. (1996), mentions in turn that competitiveness is somewhat systemic and that it is the product of the dynamic interaction of 4 economic and social levels:

1. Micro Level - Companies that seek efficiency, quality, flexibility and speed of response.
2. Meso level. - It corresponds to the State and social actors with the development of support policies
3. Macro level. - Pressure between companies with demands for comparative performance
4. Meta level. - That establishes patterns of political, economic and legal organization, as well as organization and integration of the actors to jointly achieve strategic integration and the competitiveness of the organization.

The World Competitiveness Report (2016), in its analysis of the competitiveness of the countries considers that there are 12 factors that affect the competitiveness of companies and nations:

1. Institutions - Refers to the effective interaction between the public and private sectors, the administrative and legal environment and the freedom of action to implement strategies.
2. Infrastructure. - Refers to the development of technologies that sustain economic activity such as availability of natural resources, information technology, transportation, communication, education and protection of the environment; this allows a healthy development of the activities of the companies and the country.
3. Macroeconomic environment. - The macroeconomic stability of the country is fundamental for business and significant for the country's competitiveness.
4. Health and Education. - The health of the labor force is vital for productivity and competitiveness. Likewise, basic education increases the efficiency of each worker, therefore, organizations and countries should consider investing in health and education to achieve their objectives. .
5. Training. - investment in training is fundamental for organizations and countries that want to achieve more than basic production, for those who want to venture into the international world and be competitive.
6. Efficient markets. - Countries that have efficient and well-positioned markets produce more effectively and efficiently different mixes of products according to market demands, thus participating more effectively in the country's economy and in its own competitiveness.

7. Efficiency and flexibility of the labor market. - The response of workers is more effective when they are recognized and with benefits that allow them an adequate quality of life.
8. Development of the Financial Market. - The financial sector if it is integrated internationally will sustain the country's international competitiveness. One parameter may be the distance between the interest paid to investors and the interest charged to borrowers, the less distance means that both benefit.
9. Technological preparation.- It is measured according to the agility with which the economy adapts to new technologies, is the innovative capacity of existing technologies and invest in research and in the development of innovative activities, knowledge creation and take advantage of existing technologies in their daily activities and production processes to make them more efficient, this is essential for the maturation of the country in its economic development and sustainability.
10. Size of the markets. - The size of a country's markets affects productivity since large markets allow companies to exploit economies of scale.
11. Business sophistication. - It refers mainly to the general quality of a country, its network of companies and the quality of individual companies, their operations and strategies, the quality of the country's commercial networks, clusters and support for industries.
12. Innovation. - It refers to the design and development of avant-garde products trying to generate frontier knowledge and processes to maintain competitive advantages and even move towards activities focused on providing greater added value.

Stages of competitiveness development

Competitiveness is a process that seeks the permanent improvement of the environment where companies operate and responds to the challenges of the development stage of each country. According to Porter (2009), to the extent that they develop their competitive advantages and ways of competing, they move through three characteristic moments: competition based on the production of natural resources, based in turn on efficiency in the production or innovation.

MSMEs

Micro, small and medium-sized enterprises are of great importance in the economy, as well as in employment at the national and regional levels, both in industrialized countries and in those with a lower level of development. The MSMEs represent worldwide the segment of the economy that provides the greatest number of economic units and personnel, hence the importance of this type of companies and the need to strengthen their performance, as these fundamentally affect the behavior global of national economies; in the international context, it is mentioned that 90% or a percentage higher than the total economic units, is made up of micro, small and medium enterprises. The criteria to classify the micro, small and medium enterprises are different in each country, in a normal way the number of workers has been used as a criterion to stratify establishments by size and as complementary criteria, the total annual sales, income and / or fixed assets. The MSMEs in Mexico are of fundamental importance and constitute the basis of the national economy with 98% of the total of companies, creating 52% of the gross domestic product and 72% of formal jobs in the country, making them the main employer of the country being this an ideal platform for entrepreneurs innovating with new products and services (INEGI, 2005).

MSMEs Classification

Entrepreneurship in Mexico is one of the great characteristics that people have, this has generated much of the creation of MSMEs, becoming a tool for self-employment to obtain resources offering goods or services.

There are several ways to classify MSMEs, the medium-sized company is considered to be one that has a structure already established sustainable growth and knowledge, the small company and the micro are businesses related to subsistence and self-employment.

The MSMEs are essentially family-owned, do not have a well-defined structure, lack of formality lack of liquidity, their production scales are small, their technology adapts to their needs and the vast majority lack skilled labor. Source (SECOFI).

3. Methodology.**3.1. Type of research**

The research was developed under the qualitative paradigm.

3.2. Theoretical methods

The methods of case study and phenomenology were used and the techniques of semi-structured interview, Observation and Analysis of Documents were applied.

3.3. Research development

The interviews were conducted with the staff of four MSMEs suppliers of auto parts from San Juan del Río Tier 2, Tier3 and Tier 4 considering the plant managers, administrative, department heads, supervisors, area managers and operators.

The work was developed in three stages: the first one, establishing contact with the company, qualitative research was used as a method to study the knowledge management process, competitiveness and MSMEs. The second, semi-structured questions were designed as research techniques and finally observation in the field area and document analysis was used. In the third stage, the semi-structured interviews on aspects of knowledge management, competitiveness and MSMEs were applied to a group of administrative and workers of each one of the companies case study.

4. Results

The results of the field research are presented by an empirical indicator with support in the analysis of semi-structured interviews in the 4 companies case study, for the approach to the variables that make up the dimensions of Knowledge Management, Competitiveness and MSME analysis. It is considered a phenomenological perspective, that is, the in-depth study of what happens in one or several cases, but analyzing in particular each of them.

Knowledge Transfer Strategy

Mainly the transfer of knowledge is carried out with training courses in companies with internal or external personnel depending on the topic to be addressed. The people who work in the company transfer their knowledge to others and take advantage of the experience acquired day by day, there is no adequate methodology for the transfer of knowledge and this makes it lose competitiveness in companies.

Program of incentives for proposals for process improvements and innovation.

It is observed that this general topic is not defined with a methodology, they start with ideas about it, but they do not finish them correctly. When it comes to give the stimuli, it is given in a very simple way and employees expect more about it, just a pat on the back and it's all.

Relationship with other companies

The relationship when it comes to giving is mainly when a product is made, that is, they produce the competition. Sometimes they also give advice among themselves to solve problems of their processes.

Positioning of the company

In general, companies are positioned in a good way, although they are small, there is a good image for clients because it is about giving the best to meet their needs. They consider positioning at a medium level because they are starting to develop some of them and they lack resources and time to achieve a good positioning.

Indicators that measure the competitiveness of the company

In most companies they do not have indicators to measure their competitiveness, only one has and they are not enough. This is an area of opportunity to define them and start the competitiveness work culture.

Competitive advantages

Several competitive advantages are mentioned in the companies, some are the machinery, another the response time to the clients and the production volumes that they require, as well as some certification that the company currently has.

Induction

Here is another area of opportunity to be done, we have an induction course, but in a very empirical way and over time it is given to the workers therefore it is lacking in a constant and formal way.

Capacitation

In this indicator the training is provided in an empirical way, in a company it is from its program and the rest of them is on the fly. Finally, there is no formal and defined training for employees.

Improvement Proposal

The improvement proposals are highlighted in a simple way, it is verbal directly in the work meetings or directly with the immediate boss to propose any improvement in the company's processes.

Knowledge transfer

Most consider the transfer of knowledge important, but what is observed is that there is no adequate methodology to be carried out in companies. We have personnel with a lot of knowledge in the processes, therefore it is convenient to have an adequate methodology to obtain the benefit of these people and to become more competitive in the market where we are currently working, which is the automotive industry.

Documentation and process manuals.

In this indicator most companies are documenting their processes to have their operation manuals, one company has it in electronic form and the others in plain paper. Mention that some documents were reviewed which are aimed at the automotive sector which are the main clients of the companies.

These documents are made with the support of students who are doing their internships in companies.

Recognition to workers

The recognition of the workers is done in a simple way, giving production bonuses, a congratulation, sticking the photo of the employee of the month in the corridors; to mention. It is important to have another strategy for staff recognition.

Job description and functions

It is observed that in these companies the job description and its functions are very simple, since people perform more than one activity for which they were hired due to the size of the company. It is important to define position and functions to be more competitive and people work in a better way.

Technical skills

For this indicator people have their technical skills according to their role in production, quality, molds, and administration to name a few. Here it is important to mention the experience of the people so that day by day they get these skills to develop their work better and be more competitive themselves as a person and consequently the company.

Internal indicators that measure the achievement of goals

In general, the indicators for the fulfillment of the goals are not established in a systematic way in the companies, there are indicators by department in some and in others only the managers or managers know them. It is important to mention that it is important to have these indicators in order to be able to measure each person according to the functions he is performing.

Motivation strategies of human capital

In this indicator, there is variation in companies, some with productivity and assistance bonus and others with a simple "you go well in your work"; This indicates that because they are small and medium companies, they do not have adequate strategies to motivate staff in a good way.

Development of skills in the personnel

These skills are acquired by the staff, according to the needs of the company and changing as required in different positions. This concept is necessary to work to be able to obtain the competences in the work in a suitable form.

Feedback

It is carried out in work meetings when the topic is discussed, but it is a bit to inform the feedback, that is, it is not done in an orderly manner so that people correct their work and are better in their activities.

Mission, Vision, Values and Philosophy.

These indicators some people know them, others do not, others do not apply it in their work others do; There is a very large variation in these aspects. Due to the lack of seriousness and commitment of people to take these indicators into account in a correct way.

Teamwork.

This important aspect is being worked on, it is carried out in work meetings during the day and day, and emphasis is being placed on the importance of teamwork for the company.

Attitude

It is coincidental in the four companies that there is a positive attitude in the development of people's activities, they are open to constant learning and to develop the necessary skills for the proper performance of their duties, as well as to develop skills that in the future they are useful in their personal development, they are proactive with desire for improvement and constant learning, they are interested in the welfare and growth of their company, knowing that their performance in their work is important to keep customers interested.

Profiles

They mainly require people who are proactive, responsible, with a vision of constant growth, both for them and for the company, with availability, honest, self-taught, interested in research, solving problems, staff that works under pressure.

Regarding the academic level required, Metal Working requires mainly engineers or technicians with knowledge in their processes. The 3D solutions company requires for operational personnel only with secondary or high school. The Procime Company only requires a medium level. The Génesis Company requires engineering personnel, regularly has engineering interns and later if they are interested in their work, they are hired.

Size

In general, most are micro and small companies according to the information obtained, only one of them is medium-sized with more than 100 employees currently working in different departments and performing functions that the company designates.

Infrastructure

It is an issue that in general there are areas of opportunity and it is characteristic of the MSMEs, to mention that it is observed that the resources they have optimize them according to their needs, but the Infrastructure is very important for everyone to be able to continue growing and becoming more competitive. Mention that in several of them there is civil work in development to expand its production lines and meet the requirements requested by customers.

Technological development

Technological development is constantly updated, equipment and machinery with high technology are available, but the equipment still needs to be updated; they make their products with what they have, but this leaves them with a little competitive advantage with their customers. Something important is the intention of the owners to acquire equipment with better technology.

Human Resources

It is important to consider human resources, since all companies have this vital element to carry out their work, although there is a lack of human resources, but since they are developing companies, more than one function is carried out by the people who currently work.

During the realization of the fieldwork it can be concluded according to the indicators used, that the companies studied belong, according to their characteristics, to the MSMEs, as mentioned previously, they have strengths and weaknesses in each of the fields of application, it would be redundant

For my part, mentioning these points again, not recognizing that in Mexico weaknesses are becoming areas of opportunity, due to the governmental support that is being given to this type of companies, during the two previous six years the great potential was recognized. that the Mexican has to self-employ and began to create programs to support the MSMEs and thus potentiate the economic development of our country.

5. Conclusions

In the subject of knowledge transfer to support the SMEs involved authors such as Nonaka and Takeuchi that defines the four models of knowledge conversion and also speaks of the types of tacit and explicit knowledge. As we saw in the obtained results there are personnel with experience in the companies, but there is a lack of a methodology to transfer the knowledge towards the company, it is given in some way, but not in a methodological way and it is necessary in this type of companies. It is provided on a day-to-day basis and we see it in the training, for example, where it is given properly and sometimes it is not taught.

If the other models discussed above are analyzed, some of their concepts can be applied, such as the Hedlund and Nonaka model, which talks about storage, transfer and knowledge transformation stages. This methodology is to strengthen competitiveness through the transfer of knowledge with people who have experience in the field of the company and being supported by external personnel to increase their competitiveness. On the part of resources it is proposed to generate synergies with research centers and local government from economic support projects for this type of companies, it is important to see the desire of companies for their development, but sometimes they do not have the resources for its correct development.

Important to mention the importance of culture in companies, we have a culture of many years already with certain vices and it is important to change to other work schemes with the technology mentioned that it was found that companies in the sector are working.

The documentation of the processes is important so that people when they want to change their activity within the company know how to perform the work and thus become functional in various activities assigned to them.

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