

"How To Gain Competitiveness in a Mexican Small-Sized Company: A Systemic Approach"

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Abstract

Much of the recent quality tendencies and movements have provoked that many and different models and methodologies as well, emerge in order to get more market competitiveness for companies. Total Quality Management (TQM) is, undoubtedly, one of them. However, TQM presents some adaptation problems due to Mexico's culture. An adequate use of methodology and its model conceptualization for small and medium-sized industry, seems to be the central problems to address on this culture conflict, essentially, if we consider that this kind of industry is the productive support for Mexico. The purpose of this paper is twofold. The first, is to show how this "problematique" should be addressed through a methodology with a systemic perspective. The second purpose, is to go beyond the utilization of this methodology, showing some results from an application in a small-sized company in the center region of Mexico.

Key words: Open Market, Small-Sized Enterprises, Competitiveness, Systemic Methodology, Development, México

1 INTRODUCTION

Mexico is a country in a constant change, a change that searches a rapid incorporation to the global market, with the firm idea of achieving development. However, the development bases its principal characteristic in productivity, which settles down the beginning of the markets economy in which it could compete. Within this outline, the enterprises play a vital rol for the productivity in Mexico (Schettino & Loyola, 1994) and an in all countries (Ohmae, 1990), The enterprises are the ones to participate in the game for market competition, the productivity of their processes is the key in order to achieve it.

However, there are many ways of achieving productivity, but without any doubts, quality represents the most important manner of doing it, since it can easily be the connection between manufacturing and marketing of the enterprise (Sanjoy & Samar, 1992). Besides, according to Dr. W. Edwards Deming, quality means a form of achieving productivity, and through this, to get competitiveness. (Deming, 1982; Rothman, 1994) For Mexico, quality represents one of its senior challenges (Heron, 1988) and is one of the principal priorities for some of its companies (Knotts & Tomlin, 1994a).

However, the majority of these companies are big and besides, one of the principal weaknesses in the Mexican enterprise is that they do not know what methodologies for quality improvement operate better in our culture (Peon, 1992). On the other hand, the main cultural problems for quality improvement in Mexico relies on individualism/colectivism, the power distance from workers-management, uncertainty avoidance and masculinity (Knotts & Tomlin, 1994b). In Mexico other additional ingredient exists to this reference, 98% of the enterprises are micro-small sized and they sustain the 60% of the labour plant (INEGI, 1994). With the recent economical pressure in Mexico, on where the new government has thrown a recesive economical program (SHCP, 2002), it is to be expected that the enterprises will get all the pressure, and with this, especially the small, will be forced to close, to fire personal, or to export in order to adequate themselves to a current environment of economic problems and high taxes. Within this scenery, it is easy to suppose that what Mexico requires is the development of methodologies that allow it to secure the quality of its micro-small enterprises, with the idea of being able to make them competitive in an international environment.

The main reason for writing the present paper is focused on trying to give the small enterprise the necessary elements in order to perceive the environment in which it operates, with the idea of incorporating it to the development through the improvement of its quality in order to do it competitive. For this reason, the general sketch of the development in Mexico is mentioned at the begining trying to point out the importance of the central region. Also, I introduce the rol that the enterprise plays within the development, the need of a methodology in order to foster the small enterprise is introduced like a main objective, the theory of systems supposes the base in order to take this methodology, and finally a case with some results observed is presented.

2 THE CONTEXT OF DEVELOPMENT

2.1 GENERAL CONTEXT

The development of a country couldn't be attached to isolated events, but rather they must be, for their complex nature, integrated events, this, in certain way recognizes the necessity of remarking the development of the regions from a systemic point of view, that is to say, think under the perspective of activities interrelated between each other, which means, systems thinking (Churchman, 1979). From this prospect, it is that the actions must be expounded in a coordinate way, this means that we should know the level of precise detail in order to accomplish the actions (Hansen & Ghare, 1987). The objective of these actions is dealing with achieving a substantial impact for the competitiveness of the region. These different levels of detail are captured on Figure 1.

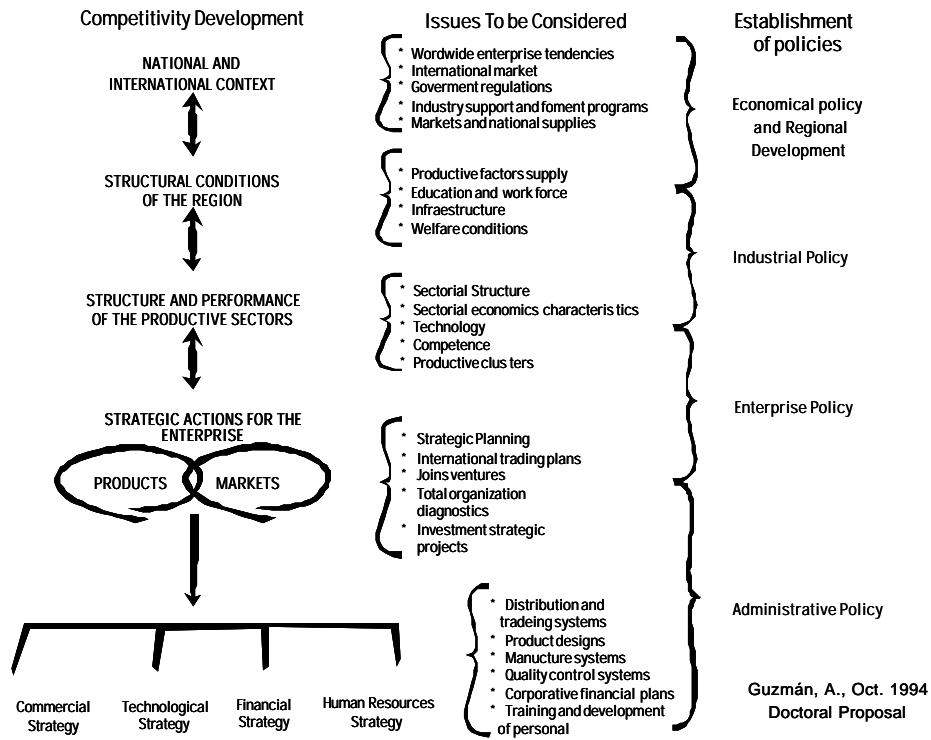


Figure 1: Levels of Detail in order to Coordinate Actions towards the Competitiveness of a Region

2.2 NATIONAL CONTEXT

Characterized by a scheme of internal consumption and substitution of imports, the time comprehended between finals of the fifties and half of the decade of the sixties, was, for Mexico, significantly beneficent for the cities at the center of the country, one of them was The City of San Luis Potosi, which is the capital for the state with the same name. It was not gratuitous that the flow of investments, promoted at the beginning of the sixties, gave life to the industrial project of San Luis Potosi (Montejano, 1993). But at the beginning of the eighties, sustained into a new scheme of growth based on the integration to the international economy, the profits were displaced toward the U.S.A. border cities of the country, like Monterrey, Hermosillo, Tijuana, Cd. Juarez, Nuevo Laredo. The key of the displacement of this development was, without any doubt, the capacity of those cities to get an integration to the productive systems of The United States, not only through the connections of Monterrey-San Antonio-Houston, but through them, towards Dallas, Detroit, Chicago, Pittsburgh, New York and Los Angeles (Figure 2a). It is precisely in the frame of this commercial flow of the northeast zone of Mexico with the United States, where we could contemplate future benefits for San Luis Potosi (Moreira & Guzmán, 1994).

On the other hand, if the prospect of the commercial connection is contemplated through productive chains, and if it is known that the enterprises want and are planning to do it at any rate, it is possible to observe that this connection don't have to carry off only with the United States, but with Europeans and Asiatic countries. We are not the only ones to realize the advantages of this integration, that is why the Europeans and the Asiatic can see us as a magnificent opportunity of access to the North American market, through the productive centers of the coast of our country (Figure 2b) (Guzmán & Loyola, 1994, pp 218). The origin rules of the North American Free Trade Agreement (NAFTA) with The United States and Canada, could end, undoubtedly, in possible strategic alliances with the European and Asiatic countries.

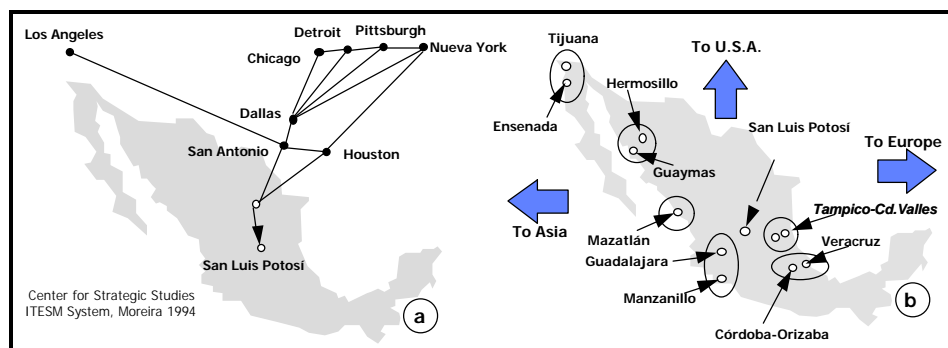


Figure 2: *The Commercial Integration of the Northeast of Mexico with United States (a) and The Slab Centers could be Important for the European and Asiatic Countries (b)*

According to these perspectives and the worldwide influences and according also to our model of Figure 1, surges the possibility of sectorial development, for the case of San Luis Potosi is observed that the sectors of Metallic and Foods, are the ones which would have a positive impact for the competitive position of the state (Guzmán & Loyola, 1994, pp 188-89). However, these sectors conform a structure and a particular problem, most of the enterprises that conform these two sectors belong to a small and medium sized category (Guzmán & Loyola, 1994, pp 183-84). Nevertheless, it is the sector of

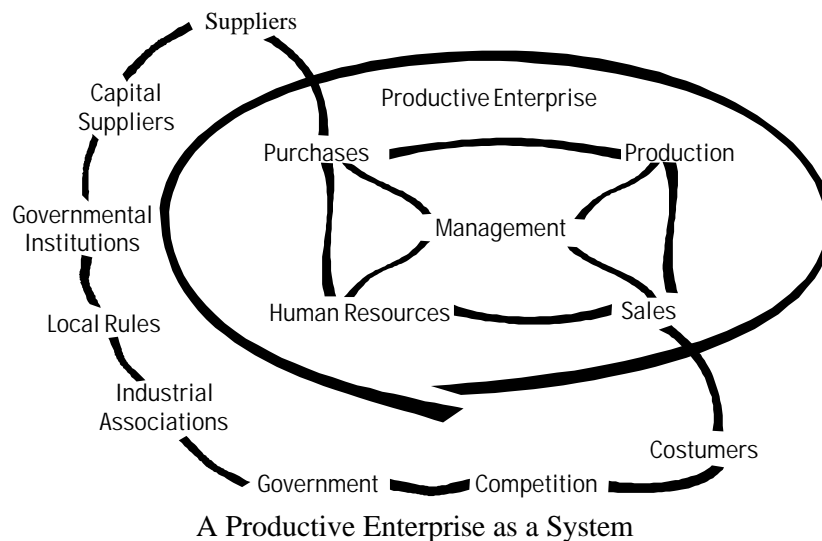
foods which shows a better competitive perspective due to its own characteristics (Guzmán & Loyola 1994, pp 119-120). Besides, it is important for the government of Mexico (Zedillo, 1994) and for the state of San Luis Potosi (Government of San Luis Potosí, 1993) to impel and support programs in order to sustain the employment through the small and medium sized enterprises. This is supported by the fact that 98% of the enterprises in Mexico are small-medium sized, and give employment to 60% of the labour plant (INEGI, 1994).

2.3 ENTERPRISE CONTEXT

These international turbulent environments and the sectorial requirements of the region as well, are very important to consider, because they set the dilemma for the enterprise context: *How could the small and medium sized enterprises be competitive in an environment like this?* for they to maintain the employment as a basic condition for the region welfare. We could follow diverse roads for the latest, the bibliography and the experience could indicate us the most adequate.

Given the existent variety of natural and artificial (man made) systems, they can be classified by their degree of progress, elaboration, size, hierarchical order, or any other variable that could serve as a standard of comparison. Van Court(1967) defines hierarchy as: “ the most important concept of definition in complex systems, because the knowledge of the ‘order’ of element or transaction details, permits the investigator to simplify or expand his system definition”.

Using the classification that Bertalanffy proposes, we will be located in the hierarchical level of socio-cultural systems, analyzing productive companies. Every system is formed or constituted by the parts that integrate it, and by the interactions between these parts. It is very important to say that generally each of these parts could be formed by other smaller parts, or subsystems, and so on.



Taking as an example a productive company, the company itself is our system, and its different departments are subsystems (Management, Sales, Purchases, Production,

Human Resources, Data Processing, etc.). Each one of these areas is formed by one or more areas, like Human Resources (Training, Security and Hygiene, Payroll), which share common information in some cases, and make certain activities that help to achieve a common objective, the same objective of the company.

The enterprises, through the history, have followed different philosophies concerning on how they should manage themselves in order to be more competitive (Flood, 1994). But for each philosophy utilized, a lot of models, techniques and methodologies have been generated for the enterprise improvement. These philosophies have always gone according to the contexts from where the enterprise receives influence. In other words, the philosophies have been developed because of the changes of the international, national, and sectorial contexts. However, not only the philosophies are developed by this, but rather, the international, national, and sectorial contexts, are being modified at the same time by them, this is a process of continuous change (Figure 3).

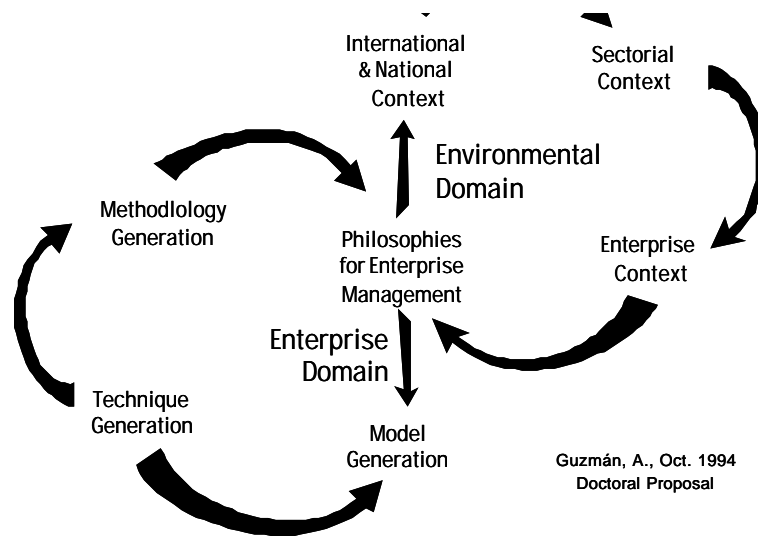


Figure 3: Autopoietic Cycle for the Competitive Development through the Enterprise Application of Philosophies, Models, Techniques and Methodologies.

If we think of an adaptation for the model of Figure 1, we would be able to see that these philosophies generate models, techniques and methodologies, which again, modify the concept of philosophies, initiating the continuous cycle for the competitive development at the enterprise level.

2.4 THE NEED OF A MODEL AND A SYSTEMS METHODOLOGY

There has been various work on models and methodologies, but undoubtedly, the proposals and definitions on them presented by Checkland (1981), Wilson (1984) and Flood & Jackson (1991) seem to be the more accurate in order to address this relevant situation. The methodology is the instrument that points out the direction utilized by the philosophy and it determines the organized use of the different techniques that could work in order to achieve the competitiveness of an organization. Besides, the methodology allows you to extend its use or application to other situations of similar characteristics, or through the time, for the continuity of actions (Caudrum, 1993, pp 29). On the other hand, we know that there exist a lot of enterprises that could be considered as successful at international, national, or local levels. Each one of those has utilized its own philosophies, models, techniques and methodologies. However, the significant differences -even though similitude could be found- are found in the form that such enterprises have used their techniques and philosophies, that is, the use of the methodology (Caudrum, 1993, pp 28).

There exists another important factor to the topic; the only way of making an enterprise competitive is by observing the enterprise as a system, that is to say, “see the whole” and not its parts. (Nasbitt & Aburdene 1985; Senge, 1990). And here, significant differences within the successful enterprises have also existed. We can observe the above, since several of the successful enterprises have quitted being it, once they proved to be successful (Hart, 1993), they lacked of precise methodologies that would have allowed them to maintain their continuity (Caudrum, 1993, pp 29; Graham, Hitchcock & Willard, 1994) and they utilized models that observed just parts through functional departments, more than an integral organization, besides, most of them belong to the category of big enterprises (Grading & Harris 1994; FUNDAMECA, 1994). On the other hand, small or medium enterprises that could have developed formal outlines of success in the industry of San Luis Potosi are not observed (CANACINTRA, 1994).

So, the problem is presented not especially in what philosophy to utilize, or in which techniques to use, neither in how to observe the organization, but as: ***Which methodology is better in order to develop integrally a small or medium enterprise?*** So that it one to be continually successful. In order to could undertake this problematic, I am considering to combine the work already developed in other enterprises, as well as the existent bibliography. The contributions of contemporary thinkers like Checkland, Wilson, Flood, and Jackson in systems through their model and methodologies, the five disciplines of Peter Senge (Senge, 1990), the conceptual development of Leonel Guerra (Guerra, 1990), as well as the work carried out in the XABRE Corporative of Mexico by Jose Giral (Giral, 1992), combined with the experiences of multiple enterprises of Mexico, may suggest that the five principles shown below could be used as a parameter for an intervention in a company.

ROOT PRINCIPLES	RELEVANT ASPECTS
Personal Abilities	<ul style="list-style-type: none"> ☛ Development of the human potential and excellent behavior. ☛ Exaltation of values like: honesty, productivity, service, delegation, creativity and respect. ☛ Respect towards the organization, organizational environment, and acknowledgement.
Continuous Learning	<ul style="list-style-type: none"> ☛ Development of attitudes, abilities and knowledge. ☛ Transmission of experiences and knowledge. ☛ Working-Teams.
Organizational Coherence	<ul style="list-style-type: none"> ☛ A flexible and one-level organizational structure, with politics, methods, and according procedures. ☛ Job outlines, grants, authority, responsibility, promotion, and proper installations for the workers. ☛ Observing the organization like a system in order to know its state.
Purpose Declaration	<ul style="list-style-type: none"> ☛ Making a diagnosis in order to know the enterprise. ☛ To integrate and share the ideas through the participation. ☛ Mission, objectives, strategies, goals, and indicators in all the levels of the enterprise.
Integral Communication	<ul style="list-style-type: none"> ☛ To know the differences of the language for the communication. ☛ System of information (indicators) in order to achieve an effective action between the personnel. ☛ Ascending, descending, and horizontal lines of communication in the functional structure of the enterprise.

Guzmán, N.A., Doctoral Proposal, Oct. 1994

The key for the small enterprises is manifested precisely in these five principles since one of the main disadvantages that a small enterprise presents, is found in the environment. For this reason, unlike a medium or big enterprise, the small enterprise is highly dependent of the environment, and therefore, it should learn to develop a more flexible perception towards it. Thus, the way a small enterprise should plan, establish and evaluate its actions is extremely important, and the methodology must comprehend strategic steps that could be focused directly towards the improvement of this perception. Based on these issues, the methodology on Figure 5 shows the way the small enterprise in Mexico should sustain its actions in order to improve its quality and so succeed in being competitive.

Designed for being more functional, it was decided simply to operate based on four points, since the small enterprise must keep a balance between four factors that make it highly vulnerable, these are: a) the shareholders; b) the workers; c) the clients and d) the suppliers, the power to make it will be without doubts an element that establishes better limits of success for the small enterprise. The methodology is extremely simple, it is considered to establish a discipline of five phases assaulting for each one of them four basic functions of any organization, same that furthermore try to assure the balance between the factors before mentioned. The methodology can be observed as follows:

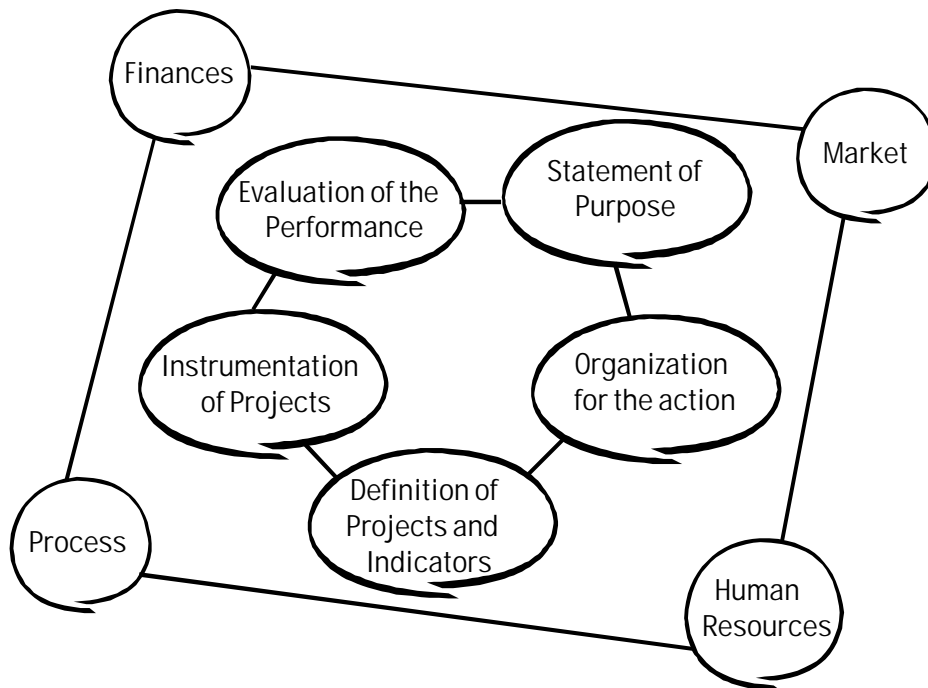


Figure 5: A Systems Methodology for small sized enterprise intervention

As we can see, each functional factor (circles in the corners) must comply with each one of the methodological phases (central oval), in this way the small entrepreneur must determine a purpose in finances, market, its process and its human resource. Once accomplished this it must plan how to be organized for the action in each one of these

factors and thus successively until complete the last methodological phase. An important part to consider is that once the methodology starts to be triggered there will exist phases earlier than other in everyone of the four factors, that is to say, in a determined moment the entrepreneur can establish his market purposes and be at the same time formalizing projects of the process and finances for example, this makes a very flexible methodology, primary factor for the small company. Some of the analysis that can be accomplished for each one of the factors can be the following:

ORGANIZATIONAL FUNCTION	SOME KINDS OF ANALYSIS	ISSUES TO BE ADDRESSED (As an example)
MARKET	Competitive Position	<ul style="list-style-type: none"> 🕒 Participation of the company and the competitors in the market 🕒 Comparative of capacity of principal competitors installed. 🕒 Geographical location of principal competitors 🕒 Comparative of the volume of principal competitor sales 🕒 Channels or distribution contacts.
PRODUCTION	Productivity	<ul style="list-style-type: none"> 🕒 Rework. 🕒 Inventories 🕒 Delivery times. 🕒 Competitive Efficiency of the company
FINANCE	Cost	<ul style="list-style-type: none"> 🕒 Cost Structure 🕒 Evolution of the cost structure 🕒 Comparative of cost structure of industry. 🕒 *Efficiency comparison
HUMAN RESOURCES	Functions	<ul style="list-style-type: none"> 🕒 Nominates and presentations 🕒 Activities by responsibility 🕒 Organizational Structure 🕒 Functions Delegation

The other important factor of the methodology is that pushes the small entrepreneur to the fact that it will be highly perceptive of the environment in which his enterprise competes, in such a way that it must know the relationships that must have with entrepreneurial and governmental organizations to always assure better perspectives of business for his enterprise.

For the phases shown in the middle part exist different types of possible techniques to use, this way we have:

PHASE	SOME OF THE TECHNIQUES USED
1	Strengths, Weaknesses and Opportunities Analysis; Benchmarking; Finance Techniques; Aggravate Diagrams.
2	Participative Planning; Nominal Group Technique (NGT); Human Resources Evaluation; Relation Diagrams.
3	Strategic Planning; Data Flow Diagrams; Statistical Process Control.
4	Matricial Alternatives Evaluation; NGT.
5	Indicator Integral System; ISO 9000; State Quality Acknowledgement Parameters.

The ITESM System manages different projects in order to develop methodologies that support the development of the small and medium enterprises in Mexico. From these enterprises I present the case of Aromaticos la Victoria (AROVIC), an enterprise that manufactures flavors, colors and fragrances for the food industry. It has a plant of 60 employees. Its main competitors are transnational enterprises like International Flavor & Fragrances, H & R, and Firmenich. Its total sales in 2001 were US\$ 8.5 millions.

The project of intervention started in February 1993, tracing from the beginning four global strategies for the development: (a) Setting a working system in order to improve quality; (b) Diversifying the lines of products in order to consolidate the national market; (c) Training all the personnel, and (d) Growing the commercial area enlarging the market.

The results up to now achieve, show that the direction taken has been the appropriate one. The sales were increased on 9% regarding the first two years. We did not export, but by 1995 the first shipment of flavors was sent to the U.S.A and by now it could be considered as a part of the sales. Our market mix increased from having the 91% of our production concentrated in two clients, now these two clients concentrate only the 85% of it. The average of training-hours was radically increased, having a total of 1700 hours of training in more than 30 different courses during in 2000. In 1993 we participated for the first time in the State Quality Award in the category of small enterprises, in that occasion the jury that were applied to our working systems indicated that we were in sixth position. In 1994 our position was the second, and by 1996 and 1999 we won the first place.

The model, the methodology and the techniques used during two years, have permitted the enterprise to observe a way of disciplined work, but above all, to be very perceptive of the environment at which it belongs.

3 SUMMARY

Within the ITESM System we continue working in order to extend the use of this type of methodology towards more small enterprises. The next phase of such macro project will be focused on the creation of manuals so they could serve like a guide for the small manager of Mexico. For AROVIC, even that the work up to now develop has been satisfactory; it doesn't mean that we have concluded, yet. The methodology of work demands and commits each member of the enterprise in order to carry out his or her work in a continuous and orderly way. Briefly, we observe that up to now the enterprise has as:

Philosophy of work: the continuous improvement;
Model: the competitive development;
Methodology: of systems; which look for continuing to impel the five root principles previously mentioned and permitting the enterprise achieve:

- The work teams in order to share resources;
- Carrying out Benchmarking in order to improve;
- Relying on a flexible organizational structure;
- Fortifying the taking of decisions of its employees;
- Searching for integrating to productive chains through strategic alliances;
- Participating in chambers of commerce in order to get to know the environment;
- Reducing the time in the delivery and service to clients; and
- Specifying their competitive niches of market.

When Mexico succeeds in establishing industrial politics of impulse to small and medium enterprises, and these, at the same time, can get organized using methodologies of work that allow them to live in a turbulent environment of constant changes, then, and only then, Mexico will be a developed country.

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