

Application of a change model, in the Industrializer de la Madera Colibrí, S. de R. L, in order to redesign the production line

Aplicación de un modelo de cambio, en la Industrializadora de la Madera Colibrí, S. de R.L., a fin de rediseñar la línea de producción

GONZÁLEZ-RAMÍREZ, Claudia Teresa† *; VALDESPINO-MORA, Rebeca and PEREZ-PALOMARES, Violeta Nallely

Instituto Tecnológico de Zitácuaro / Tecnológico Nacional de México, Av. Tecnológico No. 186 Manzanillos, H. Zitácuaro. Michoacán. C.P. 61534

ID 1^{er} Autor: *Claudia Teresa, González-Ramírez* / ORC ID: 2019 0000-0002-4106-4583, Researcher ID Thomson: G-6313-2019, Open ID: 10218204610851314995

ID 1^{er} Coautor: *Rebeca, Valdespino-Mora* / ORC ID: 0000-0002-4134-1691

ID 2^{do} Coautor: *Violeta Nallely, Pérez-Palomares* / ORC ID: 0000-0002-6891-1447

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Abstract

The organizational culture of the zone, the micro and medium company does not have any kind of specialized technical advice, much less with the application of integral collaborative consulting. The model is related in parallel with applied research, thus providing an alternative solution or guide for people who are going to be venturing into the development of Action-Research, whatever the field of application, and which is difficult to find the characteristics special, applied in the field of work, and above all, click on the results of that application. It can also be modified by its components, since it must have particularity that each company requires to operate or solve a problem at any level and what this entails, since it mainly focuses on Quality as a tool, not as an end; because the end of the first achievement of any organization will be just the certification to venture into new stages that the total quality demands.

Model, Quality, Tool

Resumen

La cultura organizacional de la región, la micro y media empresa no cuenta con algún tipo de asesoría técnica especializada, mucho menos con la aplicación de la consultoría integral colaborativa. El modelo contribuye paralelamente a la investigación aplicada, dando así una alternativa de solución o guía para aquellas personas que van incursionando en el desarrollo de la Investigación-Acción, sea cual fuere el campo de aplicación, ya que es difícil encontrar ejemplares con las características especiales, aplicadas en el terreno laboral, y sobre todo, que haga evidente los resultados de dicha aplicación. También puede ser modificado por sus componentes, ya que debe tener la particularidad que cada empresa requiere para operar o solucionar algún problema en cualquier nivel y lo que esto conlleva, ya que principalmente enfoca a la Calidad como herramienta, no como un fin; pues el fin del primer logro de cualquier organización será apenas la certificación para incursionar a nuevas etapas que la calidad total demanda.

Modelo, Calidad, Herramienta

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*Correspondence to Author (claudia.lic@gmail.com)

† Researcher contributing first author.

Introduction

The purpose of this article is to present the application of a Change Model in the Industrializadora de la Madera Colibrí, S. de R. L., in order to redesign the production line. Due to the organizational culture of the region, micro and media companies do not have any type of specialized technical advice, much less the application of collaborative integral consulting.

The monderli bcuot es in poriginated bythe activities carried out in the applied research, thus application of the change model and the redesign n a t i v solution or guide for of the production lineo are venturing into the develop-Ac n i o m, f the Research whatever the field of Background cation, since it i difficult to find copies with the special characteristics, appli The industry in Mexico has been losing ld, above all, that makes competitiveness, this is due to the fact that many o f s application . of the occasions the dynamics of each organization are due to circumstantial factors, but not in a habitual or customary way, coupled with the lack of support from a policy. -ca well defined and planned to increase the potential of a country like ours with rich natural resources, but without the competitive environment, this is warned by the Center for Industry Studies (CIS), an analysis body of the Confederation of Industrial Chambers (Con-camin).

The structuring of this research is presented in such a way that each section establishes some definitions, concepts, tools or situations, as well as the suggestion to develop them. Pretending that the reader has an overview of how he can develop his own model for the company that will be consulted.

Background and Diagnosis. The company is described at the beginning, as well as current situation to have an understanding of its evolution.

Organizational Culture In this section the basic components to start the process of change are approached, providing the necessary tools to obtain the vision, mission and objectives of the company, through sessions with the most important factor of the organization that are the workers.

Case study. The project of the change model is presented, the main problem detected by the group of stakeholders was the Re-design of the Wood Goods Production Line, which is stated in its general objective, the application is raised of the 5's, as well as the process for the achievement of aspirations, duly justified.

The relevance of applying these tools (parallel to the redesign) was analyzed with those involved, since the application of the 5's is essential, as a basis for continuous improvement and after this program has been implemented and maturity is assessed.

The group should follow up on the feedback of the action plans that are operating under the problem-solving process, ensuring that solutions to the problem presented are generated. Methodological approach. To obtain results of the objectives set out in the company, it is important to transmit the new approach to see the organization as a process, through the elements of the integral collaborative consulting.

The results show the quantitative data

It is unavoidable that Mexican companies make modifications in administrative, financial, productive, investment, commercialization, but, in order for it to be carried out, a substantial change in mentality, attitude and the action. To achieve the above, the company requires support in its different areas with advice from experienced and specialized personnel that promotes and helps to implement integral strategies for the organization, this change in the organization is a difficult but not impossible factor, as long as the company has the willingness to do so in all its aspects.

Specialized advice within a company promotes the achievement of a better return on resources, considering that it is not a new problem; It is something that organizations have suffered for years, inclining them to try to resolve these situations with their own staff, without having good results due to lack of training, updating and specialization of the same, or paying large sums of money when hiring signatures of consulting to help them implement methods and ideas for improvements, and again without achieving the expected results.

It is difficult to keep a company afloat in the midst of a weak economy and often the absence of an organizational culture brings with it the lack of efficient management methods. Industrializadora de la madera Colibrí, S. de R.L., dedicated to the transformation of wood into handles for hand tools, has entered into the manufacture of plastic handles for shovels. Having antecedents in the wood works initiated from the year of with a workforce of 40 workers, located in circuit 2 west, Apple 3 Lot 9, of the industrial park of H. Zitácuaro, Mich.

The company is located in an area of approximately 1,000 square meters, distributed in the following areas: 1 for plastics, 5 for wood, 9 for process, 1 space for wood ovens, dressing area and check-in area , 1 dining room and administration area.

One of his main achievements is presented in the process of manufacturing wooden handles because his experience and knowledge of this product has allowed him to reach a level of competitiveness, originating his incursion with transnational companies such as: TRUPPER, Fab-rica of Brochas la Azteca, among others.

Justification

La Industrializadora de la Madera Colibrí, S. de RL, argues the beginning of a shift towards productivity, based on the needs and benefits that remain uncovered from the approaches made in the diagnosis, to mention the lack of recruitment and selection, in order to have the appropriate people for the work to be done, which has generated a high turnover.

There are great distances between the machines, which generates a greater use of time in transferring the material from one machine to another, as well as personnel and idle machinery, as a result of the above there is also waste and rework because the sequence of the operation that each of the products they produce is not known.

The problem lies in the ignorance of what quality is, with the foregoing it is again confirmed that even in this century there are companies that continue to work on the stereotyped inheritance that has been used from generation to generation.

The Industrializadora Colibrí has now entered into a transition with this model of change, having as a strategy the training throughout the company, to mention some of them. The fact of being in a world where competitiveness and quality systems are the value of each service provided has prompted Colibri to mount the change, taking into account that quality is everyone's business or does not work.

Objective

General

Provide the Industrializadora de la Madera Colibrí, S. de R. L., with its own exchange capacity.

Specific

- Apply a situational diagnosis to the company
- Use comprehensive collaborative consulting tools
- Use effective techniques and tools in the interaction method,
- Train in organizational culture
- Apply the problem solving process
- Generate an ad hoc change model to the organization

Research question

Is it possible to strengthen the company, through the application of a Change Model?

Theoretical basis

Investigation action.

Kurt Lewin (1951) considered the father of action research, said: The research necessary for social practice can be better characterized as research for social engineering or social management. Strictly action research does not have to define a new type of research project, since its working modality generates knowledge, produces changes and is compatible with other types of research..

The actions of this methodology originate in the context of education, but it has been expanding its application in other fields of science, since its name says so, there is a great link with the cognitive and obtain measurable effects in reality. of the object of study.

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Among its most typical features is the participatory character: through those involved or people who are within the organization who own the process under study. The project contextually adopted action research, a methodology that facilitates that the planned activities in any field of labor application are tied to technological development, with this methodology approach in which it consists of acting immediately when a problem has been identified that it is clear and feasible of a solution, in this way credibility is gained in the process since tangible results are being offered from the first moments of resolution for the organization, so results are not expected until the end of the consultancy, influencing reality through the workers involved seeking to solve problems and needs, being these same process self-managers.

Diagnosis

Its main function is to examine the problem facing the company thoroughly, uncover the factors and forces that cause the problem.

Before initiating the diagnosis, the first phase is the one that is the entrance, where the psycho-logical and formal commitments with the owner of the company are established, identifying the object of change to reach the desired state to through logistic assurance, relationship building and understanding of the situation. (Guizar, 1999), logistic assurance, ratification and rectification of stakeholders or group members, who will suggest the area where interviews and meetings will be held, in addition to the time available to carry out the various scheduled activities.

Analysis Plans

In figure 1 five levels are shown, in it you can establish the degree of detail that is required to study the system or process as height is gained, these are: satellite level, plane, helicopter.

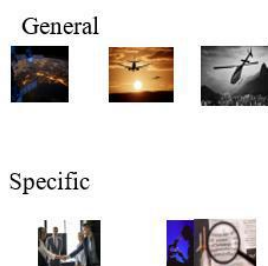


Figure 1 Analysis Plane

The microscope is the lowest level where detailed analyzes, cabinet or laboratory investigations, historical records or specific calculations are carried out at the tip of a pencil.

The level of man with feet on the ground is associated with those who in a tour of the facility can be seen with the naked eye, such as the location of workers in the different operations of the production process, the problems related to the organizational environment.

The superior planes of analysis, helicopter, airplane, and satellite are reserved for the most general aspects to consider, men feet on the ground and magnifying glass are warned in those aspects in greater detail, preventing trees from preventing us from seeing the forest and thus achieving an adequate distance from the present problems (di-agnostic), the desired future (vision) and the ways to achieve it (strategy).

Another methodological consideration of transcendence is the approach of the organization. Traditionally, a company is analyzed for its functionality by its hierarchical structure, by the levels of management involved and / or the functional dependencies involved in the research object. See figure 2.

Traditional Approach

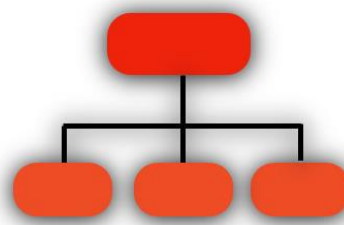


Figure 2 Traditional approach-hierarchy

With a new approach, the analysis is carried out on the basis of the organization as a process, Starting from this and from a satellite analysis plane, some examples could be: ministers, transformation, distribution and sales. Figure 3.

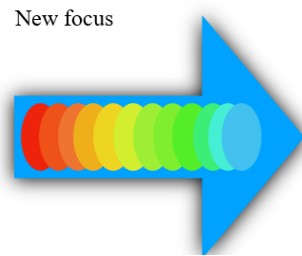


Figure 3 New approach - process

Interactive method

This method is the channel through which runs the actions of the integral collaborative consultancy that was applied to this project to achieve the change proposed by the members of the organization, being they the owners and maximum responsibility of the content of the solution proposals.

It is difficult to conduct effective meetings if you do not have a minimum knowledge of the groups and the phenomena that occur in them, so it is necessary for people to interact and influence each other, interaction is a key element of forming a group; therefore the combination of interaction, communication and participation are three indissoluble phenomena within a group.

The interactive method helps to have a common approach, generate a pro-active atmosphere, suggest techniques to solve problems, be alert against manipulations, be effective, facilitating meetings to function in a timely manner, techniques must be adapted to the personality and needs of the group involved, if not, adjust or modify.

Key characters of the interaction method.

The facilitator It is neutral to the group, does not contribute to their ideas or evaluate them, helps focus the energies of the group by suggesting alternative methods and procedures, protects the members of the group and gives everyone the same opportunity to participate, provides the logistics necessary before and after the meeting.

The register. Write down the basic ideas in pan-letters in front of the participants, collect the ideas of the exponent, do not evaluate them; captures ideas with great word savings, this way of registering does not slow the development of a re-union.

The head of a group. He does not conduct the meeting, he is an active participant, he retains all his powers and responsibilities, he makes the final decisions, he takes control of the meeting if he is not satisfied in the development, he is responsible for the agenda.

The group member He is an active participant in the meeting, he keeps the facilitator and the registrar in his neutral roles, he makes sure that the basic ideas are recorded; makes procedural suggestions and determines the course of the meeting.

Number of participants. The optimal size is $7 + 2$, it cannot be less than five or greater than nine. In the industry the tasks performed in Small groups are more satisfied than those who participate in large groups.

Organizational culture

There are many companies that decide to implement new operation models throughout the company, whether of quality, sales, suppliers, etc., without taking into account a determining factor to maintain and reach maturity of the new system to be established, that is, to create a culture of total quality, being that leadership and administration are the essential ingredients that allow a company to develop better in today's and tomorrow's competitiveness. (Joe, B. 1998).

The integral collaborative consulting

In this process the role of the consultant is very important and its objective is to help the organizational system to improve its adaptability. This logic leads us to the concept of process consultation in which the consultant helps the organization make a diagnosis of itself, select its adaptation responses and determine its own progress.

The current technical-scientific revolution is shaping the traditional integral and collaborative cut, which indicates five phases: entry, diagnosis, response, disunity and closure, which were basic elements in all action in the project that are supported by the consultancy collaborative integral as shown in the following figure 4.

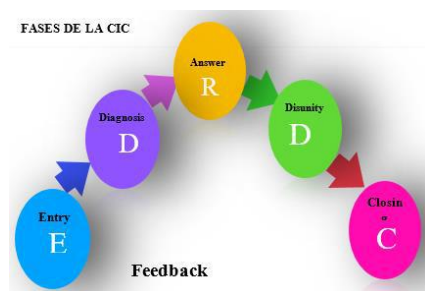


Figure 4 Traditional Court of Collaborative Integral Consulting

Entry. Phase where the psychological and formal commitments with the employer are specified, refers promptly to the logistics and the ob-links that both parties contract.

Diagnosis. At this stage, relations with those involved in the company are deepened, not only based on the declarations of entry with the employer, but also on the concrete actions that are lived in the organization; is when the consultant knows many elements of the Organizational Culture and the Values in which they interact, this facilitates the detection of existing problems and frustrations, as well as the approximation of potential barriers that will interpose in the process of change.

Answer. They are the action plans derived from the diagnosis, this scheme is useful to specify the fundamental content of the stage.

Disunity. This is carried out in an imperceptible way when the organization has begun to internalize a new style to realize its own capacity for change.

Closing. It is a formal moment where it is very clear that the objectives set out at the entrance have been achieved and that the formal and psychological commitments have been met.

The involved It is those who make the final decision, those who are affected by them, those who possess the relevant skill and experience in the matters to be treated, who can slow down or accelerate decisions according to the position they occupy.

Troubleshooting Process

The problem solving process master skill - vahcetrieon r easne collaborative integral c participation of workers the way to achieve succ common process, it provi map to follow, a common instruments a and t are c h n is q u easier to transfer to th

The approach allows u that having problems is them, identify, priorit workers to be identifie achieved ty his a s c a w a k l i t a corresponding mental cha

It is important to mention the participants at the beginning of each meeting the depersonification of the problems, not to find guilty, but to reveal the causes that originate it, thus co-combining all efforts to change the current situation, the problems are categorized according to the essential process and the way they affect.

This process is indep collaboration and collab consulting, but ithoids as of interaction; hence the the potential for actio committed leadership in valuable aspirations, mo participants and face the that n ahke p uspo b lv i m g proces

Problem Identification and Selection. It is a very important stage of the process, the situation to be changed is written, how is it really?

Problem Analysis The causes are not analyzed, if you have a well identified problem you can move forward. It is necessary to consider two questions: What do you want to know? When do you know what you are going to do?

Potential Solutions Generation. The previous steps are considered, and it is important to review the problem definition, the key causes, the positive and negative forces, as well as the limitations.

Selection and planning of the solution. The decision is taken of the potential elements because they have to choose from, action plans are made that are the implementation of the solution.

Solution application. In this phase it is executed and controls the solution according to the plan developed in the previous step.

Solution Evaluation. In this phase the circle can be closed when evaluating the results, it is evident when a change in circumstances, situation, people and their actions is recognized, culminating directly where the identification stage begins, which leads to a new cycle of problem solving.

Change Model

It is important that each member of the company is generated to be confident and involved

In the change. For this, information sessions were held, dynamic related to the thematic and some social events focused on gaining a better level of integration, significant actions such as, writing down each their triumphs in life and in the same way frustrations, making with the latter a deposit of waste (to which we set fire), displays of affection and delivery of equipment where they declared themselves to fight for one and for the others, just to mention a few.

It is important not to ignore the following fundamental principles for the creation of a culture of change:

Each person is a set of strengths and weaknesses, the important thing is that all are areas of opportunity.

Everyone needs to have a sense of purpose, direction and expectations.

One must expect the best of all that life provides us. An internal life of quality leads to a satisfactory life.

People with strong ideas provide a vision that transcends, engages with people, service, innovation and quality. Their commitment is that all members of an organization be free, positive and expanding.

Because people become what they think, decide and do, it is necessary to know some terms related to the subject, for their understanding as visionaries:

View. It is the situation that our mind sees. Imagine the macro results you want to get.

Mission. It is a general statement focused on the macro results that are sought; It is the basis of the objectives and expectations specific. Dream. It is a deep and hopeful feeling about the possible, but without specific intent.

Philosophy. It is generally a relatively complete set of truths, values and beliefs that feed, found and focus the origin of the dream, the stimulation of the vision, and the formulation of the mission. The key components of a Cam-bio Model are:

Commitment to a vision, mission, and transcendent goals.

Recognition that people will follow those who learn, not those who already know.

Focus on the logical and creative deployment of people's strengths focused on systemic change.

Practice the values continuously.

Timely delivery of incentives.

Promotion and training of self-directed teams.

Promotion of the purposeful behavior.

Focus on positive results.

Foster leadership in the process.

Mutual belief that "we can achieve anything.

Generate a culture of commitment to continuous learning and the new dimensions of the service.

Creation of a work evaluation criterion based on innovation, quality, creativity and change.

Setting policies and programs that support and increase the high level of physical, mental and spiritual energy.

Expansion and evidence of all dimensions provided by organizational change.

Daily exposure to one or more of these statements can change the attitude of workers within an organization. Attitude is everything. Attitudes are the mental and emotional manifestations of values.

Members of a team that possess authority feel valuable and are able to perform a higher quality of workforce than those who feel without authority, confused, negative and open or secretly hostile. Paradigm changes must focus, with an almost maniacal intensity, on delegating authority to the individual and the team.

Methodology to develop

In every project it is important to consider the constitutive elements for each stage of action, and in the investigation - action in combination with integral collaborative consulting is no exception, in this subject a compilation of the elements to take Organizational interventions such as analysis plans for understanding and problem solving, A new approach to see the organization as processes.

It is important to emphasize that the activities applied were the five stages of the collaborative integral consulting process.

Entry

The Wood Industrialist "Colibrí" has weak organizational objectives (identified in the phase of formal commitments). When talking with some of the workers, they feel the need to be clear about the activities that they must carry out, since sometimes they are changed from machine or labor to attend to other tasks, lack of controls on orders and product deliveries, Orders are met without providing the raw material and human resources to carry out the task.

Diagnosis

Describe the causes of organizational problems, as well as identify the guidelines for the future development of the company, in the quality of products and services, to meet or re-base customer expectations.

The questionnaires and interviews will be applicable throughout the organization, aimed at: Management level, middle management level and line operator level. The diagnosis determination was based on the application of 3 instruments:

"Johary" window. Know the degree of openness of the company, in its direction and understanding in inter-person relations, with the purpose of measuring effectiveness and knowing the disposition with which you have for the transition to a model of change.

Diagnosis for Quality. Describe the causes of the organization's problems, as well as identify the actions for the development of the company.

Process for Organizational Development. Know through this too application of questionnaires and interviews, the type of participation, climate, values and innovation, as well as the needs of staff within the organization,

Answer

The method of interaction was considered as the backbone of meetings with those involved, since much work is carried out in a short time, it is dynamic and motivating,

It contributes to individual responsibility with regard to group decisions, it is flexible and practical to be used in part or in its entirety.

The process of analysis for change is not unique and linear, but totally iterative, on which it turns again and again to refine and deepen the analysis, so it must be considered an open-ended process, where it does not end any field; but simply when there is a cut that can subsequently be continued. It is not necessary to worry if in the first iterations the analyzes are incomplete, since the process to be repetitive and as the analysis plane is lowered, the depth and detail is guaranteed as far as it is desired to arrive.

Definition of the Mission, Vision and Quality Policies by those involved in different sessions, contributing to the identification of those involved in the organization

Change Model, Vision

It is an important achievement to integrate the elements shown in figure 5

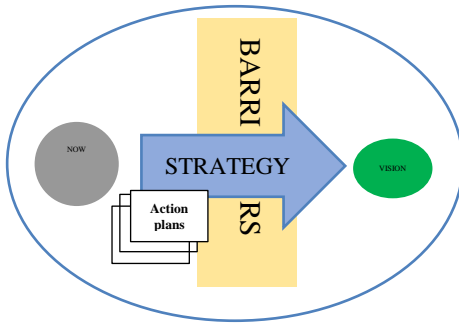


Figure 5 Change Model

The + - SS amafers to the Now is the improvement, effectively combining innovation, starting ep tht ow hganiza tion is located allowing the company to ensure its future success. To reach total quality, we must understand that this implies a radical change in people's mentality, the conception of the organization and the improvement processes that characterize this approach. In each phase and activity the feedback cannot be lacking with all those involved in and out of the sessions, this gives an exponential strength to the process of change.

Problem Solving Process

Key element for the process of implementing the change model, its elements are:

- Problem identification and selection.
- Problem Analysis
- Generation of potential solutions.
- Selection and planning of the solution.
- Solution application.
- Solution Evaluation.

Techniques for the Problem Solving Process To generate ideas and gather information:

- Brainstorming
- Writing ideas
- Diagram Why? For what?
- How diagram? When?
- Verification Forms
- Interviews and surveys
- To select ideas and achieve consensus:
- Listing Reduction
- Balance Sheets (Positive - Negative)
- Weighted Voting
- Criteria assessment models
- Paired Comparisons
- To plan actions:
- Flowchart
- Gantt chart
- Critical Route Diagram (PERT-CPM).
- To analyze and reflect data:
- Cause-Effect Diagram (Ishikawa Fishbone)

- Force field analysis
- Histogram
- Pareto Analysis (20 x 80) Sector Chart
- Time Graphs

Process Approach and Improvement Continues for Quality

It is vital to carry out an analysis of the various organizational aspects, such as the responsibility of management, resource management, product realization, analysis, measurement and improvement, effectively combining innovation, allowing the company to ensure its future success. To reach total quality, we must understand that this implies a radical change in people's mentality, the conception of the organization and the improvement processes that characterize this approach. In each phase and activity the feedback cannot be lacking with all those involved in and out of the sessions, this gives an exponential strength to the process of change.

Case study

The entrance to the Industrialization of the Colibrí Wood was carried out, in order to give clarity and follow-up to the methodological process and action plans generated in each of the sessions, its monitoring and feedback.

Entry. In the first interview, a relationship was established with Mr. Gustavo Colín Uribe, explaining the objective of a new approach to work, professional work, and the needs of the organization, where the psychological commitment was established and formal, in this way it allowed us to carry out professional activities and follow up the work process map, exhausting all the issues and reaching feedback, resulting in him recognizing the needs of his company, and showing himself willing to collaborate in the activities that arose through the realization of the consulting work of the new collaborative and comprehensive approach and as a trigger for the change model.

To make known the concepts that will be used hereafter, as well as the methodology to follow in each of the sessions, such as:

- Commitment.
- Integral collaborative consulting concept.
- Change Model
- training

- Involved
- Brainstorm
- Essential process

With all of the above, apart from allowing them to work better and with greater security, it gives them greater satisfaction, since they can see everything in order and cleanliness without anyone invading their assigned areas; so they save a lot of time for any operation.

The organization and distribution of areas allowed taking advantage of a space for dressing rooms and check-in; same that will facilitate with its proximity the access to your working day, as well as at the end of it, without this cause delays in clock records.

Diagnosis. First, the quality diagnostic questionnaires were prepared according to the company, as well as the analysis and review of the other two questionnaires. The whole logistic aspect was prepared as it is: An isolated place of any type of person who works in the company, with the purpose of giving absolute freedom to the respondent, since this type of instrument of information collection allows that the individual makes statements and / or reflections that he does not dare to share or Even with his best partner, they were asked that the information was confidential and that was the case.

The company was informed of the results obtained at the meeting following the application of the surveys; of which they expressed (those involved):

- Actually the Johary Window seemed very good tool and we are willing to carry out dynamics and / or techniques that allow us to develop skills and improve ourselves.
- The information thrown at us was very useful since it makes us more clear on how we are as a company.
- This type of questionnaire has helped us to obtain who will be in charge of the Assurance of the Quality, as well as who can form the Committee for Quality Assurance, and also confirms the proposal they had for these assignments.

The administrative party was able to verify the level of integration of each of the workers from these tools, which allowed them to start, they only allowed them to put the front mirror so that they could be seen; as an individual and as a work team, or at least how they conceived it until then.

Since then we see that there is greater participation of workers, in the contribution of ideas seeking change.

Determination in session with those involved in their essential process of the Colibri Industrializer. See figure 7.

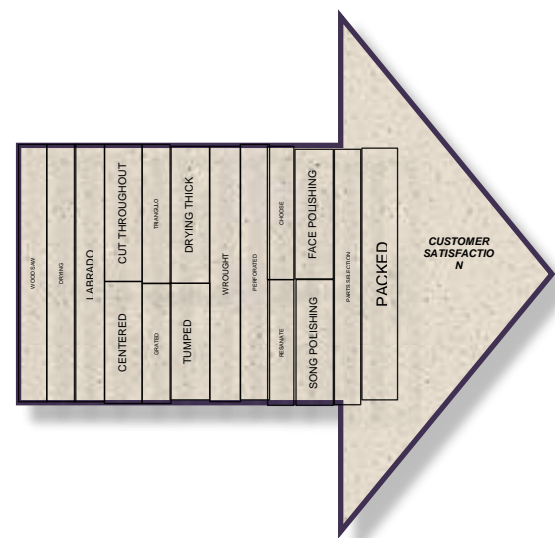


Figure 7 Essential Hummingbird Process

One of the actions of those involved with great impact was to achieve the definition and implementation of the following:

Colibri Mission

“ I the company our mission is to meet the needs of our customers, with staff satisfied and author made, in wood and plastic products, with quality”.

Hummingbird Vision

"To be a quality company at the state level, leader in the field".

Colibri Quality Policy

"Provide our customers with constant satisfaction through reliable products and services in an efficient and timely manner, at a fair price, maintaining excellent organizational health and generating a culture that contributes to environmental protection".

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List of Problems and Frustrations

It was done through brainstorming, where those involved poured all the problematic situations that afflicted the company, having 19 problems. Hierarchy Matrix

In order to solve the company's problems, the main problems were addressed, the hierarchy matrix was carried out and classified according to the following: High Control, Short Time, Low Cost and High Impact.

The resulting problems were the following:

1. Generate responsibility
2. Lack of quality control
3. Lack of communication

A tour of the production line was resumed in the next consulting session, taking as a standard the essential process of the company (also generated by them) with the purpose that those involved ratify their status as experts, verifying step by step each component of the same and observe the reality of work under the production hall. Following the route that was made on the production line, it was determined that the distances between each machine presented a problem during the process of each product that was made, in addition the existence of idle machinery was detected, consequence of the distances and the disorder of the same.

An accumulation of sacks was discovered, all in disarray, scrambled, containing waste of rework and pieces of boards, which are sometimes used to remove sticks and brushes; such accumulation increasingly invades the production line, since the amount of wood leftovers generated per day is excessive; In addition, each of the sacks are not labeled or identified, which generates a lot of time in the selection of the material (in the case of reworking). From the training given on the essential process and on the verification on the line and analysis of the problem, those involved at the end of the route along the line concluded that the problem prior to the lack of quality control was the redesign of the line, since when verifying the essential process that was formed in the first meeting they could see an exaggerated disorder in the location of the machines as well as the enormous separation that exists between some of them.

So it was agreed to attack this problem; for which it proceeded to redesign the line of work through a following Action Plan.

Conclusions of the Case Study

The culture for quality must be entering the organization and people in a way so natural, training and driving, to allow so that the effect of the acid test is facilitated, for each innovation, proposal or redesign, to reach the levels where it has to be validated or discarded, so that it is authentic.

In case of passing the acid test, the administration may be certain or not of how well the company system knows that directs, and on the other hand, the rest of the organization, will be the balance between the ideal and the real.

When it is possible to prove and approve a proposal of a certain nature and that has been shaped by those involved in it, a reason for satisfaction and pride is created, but above all the ties of confident, for the fact of having trusted in himself.

It is clear that there can be no improvement without those involved. Feedback gives strength to the cohesion of the group of stakeholders.

Results

The research - action has as fundamental objective to obtain tangible results for the benefit of the organization. In this section The work process carried out in each organizational intervention is presented, where the concepts and models are validated to act in a more effective, capable and intelligent way and obtain the desired results.

In the planning process, emphasis is placed on the importance of being oriented inward rather than outwardly, changing the way of interacting by modifying formal organizational structures, discovering the most useful interaction patterns that exist between people and people. processes.

Redesign of the Line

Waste:

The waste was generated after the manufacture of all products, which was no longer affordable to give other treatment to take advantage of it, an average of 10 bags per day were generated that were reserved in a specific area for when there was a considerable number for sale, because if it were sold on a daily basis it would cause a very high cost of transfer since it is delivered directly to the customer at his address.

Of the 10 sacks mentioned, the material that could be considered as raw material for other products to be manufactured was selected, such as: taquete, wooden brush and brooch, separating 2 sacks of material for said products, so the 25% waste.

Positive results were obtained from the sale of products derived from the waste material and from it, see Table 1.

Product	Quantity in piece	Cost	Income Obtained
Waste	240	\$ 5.00	\$ 1,200.00
Skewer	14,000	0.12	1,680.00
Brush	4,000	1.5	6,000.00
Total			\$ 8,880.00

Table 1 Income from the sale of derivative products

There is an order of 100,000 pieces of skewer.

- The implantation of resulted in savings in the supply of electric power, 31,5 kWh going from an initial consumption in the amount of 54,000 and ending at 3,239. With a 42% saving.
- Decrease in 10% of the organization and in the workers' absence to 3%.
- The variety of manufactured products increased by 50%.
- The idle machinery decreased by 3.5%.
- Currently there are 100 personnel.
- Punctuality increased more.
- Production is open and receptive to feedback, declaring a project of today.

Production Line Design

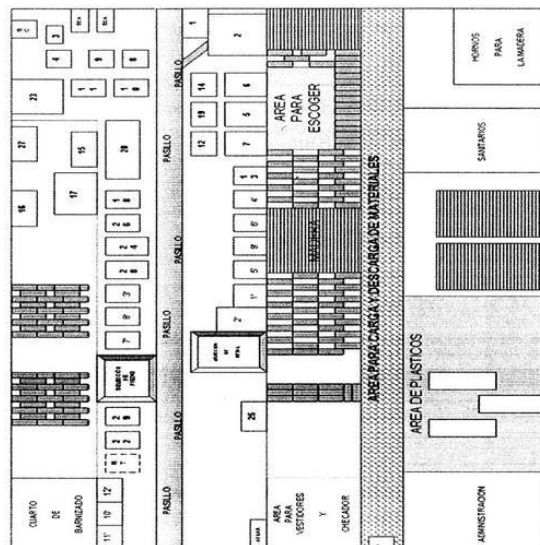


Figure 7 New Production Line

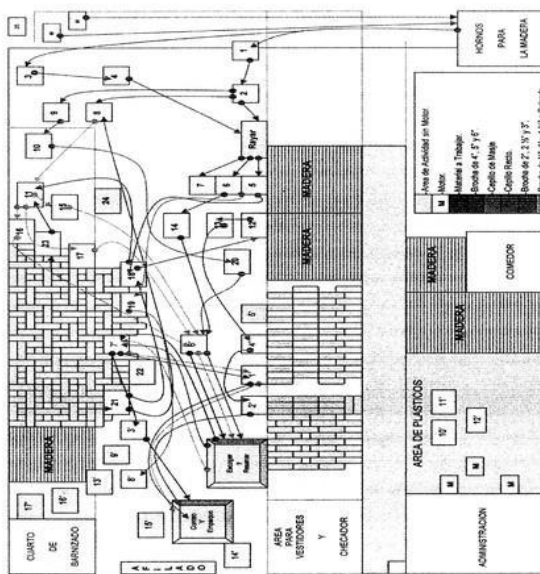


Figure 8 Initial scheme of the Production line

Through the management as a standard Model of Change proposed for the Industrializadora de la Madera "Colibrí", it was possible to design and implement a model of change oriented towards quality, based on the needs of the company, breaking mental schemes and customs that did not allow them to grow as people and as a company. From the diagnosis and the feedbacks, made to the company, the training processes were opened, decreasing the resistance to change more and more, this is proven from the degree of self-opening and receptivity to feedback, declaring the balance to criticize and be criticized constructively, according to the objective of Johary's window.

With the questionnaire for Quality applied, acceptance of leadership and openness to change is allowed, based on the formulation of questions at the 3 declared levels, allowing to locate the ideal people to lead in the production area.

With the training given to the Model of Change (MC), Interaction Method (MI), Problem Solving Process (PSP), Achievement of Aspirations, etc., were triggers to mount the change. At the beginning of the work with those involved, all purchases were covered with loans from the bank, now and from the savings and profits and the application of consulting strategies the debt is covered and invested in the same, without having to request additional bank credits. A palpable example is that initially the company had only the wooden products ship, now the ship has plastic products.

The quantitative results presented are thanks to the delivery of those involved in the transformation of their organization, fulfillment and feedback of the action plans, initiated from the organizational culture, diagnosis, etc., which were mentioned above.

Discussion

It is observed that when applying a Change Model, the method of interaction that leads the company to guide its thinking to process is essential, promotes an organizational change, based on the definition of its vision, mission, and values, and thus starting from small and simple modifications in the line of production, allowing the increase of items produced that satisfy quality and service customer expectations. With the re-design of the line, machinery and personnel were optimized, since with the same capacity installed they met the orders that were increasing over time.

Care should be taken to produce over installed capacity, because it would generate high storage costs in case of not having more orders, in people it causes work stress that affects the loss of sense of belonging and commitment to the organization. Senior management should not lose its new focus of seeing its company with the capacity for continuous change that involves everyone.

The Industrializadora de la Madera Colibrí, has been an area of opportunity in the eastern region of Michoacán, generating employment sources, as well as an economic spill in the acquisition of local goods and services, providing spaces for practitioners of technical education, superior and postgraduate, creating a win-win situation.

Being able to identify the areas of opportunity for growth, change and that everyone wins in the aspects (personal, family, social and organizational) set the tone to continue with a proactive attitude. In this investigation –action carried out in the Wood Industrialization company with tools of the collaborative integral consultancy, with significant results, only some weaknesses of the organization were addressed, having as areas of opportunity in:

- Marketing; apply current tools to open the market and have continuous growth
- Financial rehabilitation, provide components, training in use and application of these to stabilize and plan the finances of the organization.
- Engineering, document in full the procedures for the preparation of all products of the economic entity.
- Just in time, implement add hoc models to cover production and storage
- of the finished products, in the levels
- according to the facilities of the Wood Industrializer.

The activities carried out were directed from the approach of the collaborative integral consultancy with the change model, this generates a perfectly cohesive binomial, which allows an organization to provide its own capacity for change, an action that is not easy to obtain and develop but with the inclusion of the workers called involved gives the opportunity to do so.

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