

## **APPLICATION OF A SYSTEMS METHODOLOGY IN THE DIAGNOSIS OF THE ORGANIZATIONAL CULTURE IN A TELECOMMUNICATIONS COMPANY**

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### **ABSTRACT**

The study of the organizational culture is of vital importance in this new millennium, maybe as a reflection of the complexity of the current world and also because recently emerged the idea that cultural aspects play a decisive influence in the life of a company. From the last century has arisen, in different places and with different names, the idea that it is indispensable to thoroughly achieve a transformation of our mental structures, and that it is necessary a radical change of the organizations that have become obsolete, in the postmodern time. The first part of this work contemplates a short analysis of the concept of "culture" from the anthropologist perspective through to the organizational one of the Management Sciences. The second part, describes a cultural change project in a telecommunications company, having as a systems support the methodology of Soft Systems (SSM) of P.B. Checkland. It was used as a tool for cultural enquiry in combination with Organizational Development Theory to diagnose the organizational culture from a systems point of view. This helps to understand the organizational reality and the possibilities of developing a culture with bigger integration and communication that will allow the interaction of all the areas in the solution of technical and human problems. The application of SSM is not to be used in a linear fashion or like a set of steps during the diagnosis process but as a holistic tool of a wider cultural scope. It is capable at the same time of combining with other theory in the full process of change in order to develop a culture of wide participation and involvement in planning and designing the future.

**Keywords:** Organizational culture, Organizational Development, Diagnosis, Soft Systems Methodology.

### **1. INTRODUCTION**

At present there is a change of imperative for autonomous organizations that pursue their own purposes and interests, and over time take actions that interactively define where they are going in the complex world in which they exist. Their future pathways are often influenced by change that may either derive from within the organization, or externally. It is in such conditions that there is an imperative to manage the change process that derives from both cultural influences.

The study of organizational culture is of vital importance in this time of incredible changes as organizations are changing to virtual organizations, to highly technologically and non-humanized organizations. As Rodríguez Delgado (1994) points out, the complexity of the problems is such that it is necessary to act in a simultaneous way on the human minds, the partner-political-economic structures and the environment, which cannot be achieved without fomenting a systems thought.

According to Alvin Tofler (1994) the social and economic transformations of an industrial society that goes toward a society based on knowledge, are generating a great challenge to the nations and companies. That is forcing them towards the development of capacities to transform and to adapt quickly according to the circumstances of the environment.

Therefore, it is necessary to deal with the present complexity of cultural analysis, but at the same time to provide a systems approach to the cultural analysis. The application of a systems approach combined with the traditional Organizational Development theories will allow the analyst and to all the people involved to make an organizational diagnosis of the culture of a company with a wider scope, thus developing a culture of wide participation and involvement in planning and designing the future. Having this systems approach to systems management of an organization, many strategic and technical problems will emerge and then an interesting set of systems solutions also will appear.

A new conception of the culture of an organization is needed and the only way to get it is to use new systems tools for understanding new global cultures.

## **2. CULTURE AND ORGANIZATIONAL CULTURE**

Culture is fundamental part of any social group. Organizations as part of society are reflecting the specific culture of each society. Organizations are developing their own culture, the mixing of different cultures develops a new specific organizational culture.

The study of the organizations through its culture allows to discover its essence and when knowing it, to describe its influence on the organizational processes, in which the members of the organizations live. However, like is pointed out by Dávila and Martínez (1999), it is not easy to know the culture of an organization; the investigator needs to go into in the corners of the conscience of the actors and to study like the processes are given. The culture reflects the entirety of the life of different people groups, their relationships and interpersonal attitudes, as well as their values, beliefs, norms, traditions and customs, all these elements interconnected define culture.

Trying to trace the origins of the word, we find that culture is derived from the word Latin *culturam*. This concept acquires a significant presence in the European languages that preserve part of the original sense of the word, which meant the cultivation or the care primarily of something, as the crops or the animals. Starting from the XVI century, the original sense was extended little by little, from the sphere of the farm to the process of human development: it passed from the cultivation of the crops to the cultivation of the mind. Toward the end of the XVIII century and the beginnings of the XIX one, it appears first in French and English and then was incorporated into German.

This word was used as a civilization synonym, and both (culture and civilization) were used more and more to describe a general process of human development, "to be cultivated" or "to be civilized."

The decisive change was presented at the end of the XIX century with the incorporation of the culture concept into the nascent discipline of anthropology. The study of the culture dealt now less with the ennoblement of the mind and the spirit in the heart of Europe, and it was interested more to decipher the customs, practices and beliefs of societies (Thompson, 1998).

From the anthropologic perspective, the concept of organizational culture is derived. Smirch (1963) defines culture as the integration of beliefs, behaviors, knowledge, values and objectives that makes possible the life of people. Reichers (1969) points out culture as a model of meanings grouped in symbols that allows men to develop a specific attitude about life.

Bradford and Harvey( 1972) develop the idea of the existence inside of organizations of a group of myths, rituals and organizational values that are a powerful force, more important than the structure, rules and procedures of the organization.

The culture of a society is mixed with the culture of the organizations, having the essence of society reflected in the organizational culture, then organizations are some kind of mirror of the culture of a society. An example of this idea is the economic take off of Japan where, the organization model after the Second World War was irrational to the Western eyes. This model acquires the range of "miracle", attributing the success to the cultural aspect of the Japanese society.

This caused a series of analyses, seeking to understand which were those principles and values that could be associate with the North American deficiencies. This lead to the rise in United States of the concept of corporate culture. The book "In Search of the Excellence" by Peters and Waterman (1982) is the one that lead to the adoption of this concept, linking the achievement of

the objectives of the organization with the creation of a strong organizational culture. Starting from then, a new terminology was integrated to define the philosophical administrative vocabulary, value, beliefs, principles and others that are related to the term organizational or corporate culture.

Under this perspective, the theory of organizations comes closer to Anthropology, Psychology and Administration, and it looks to recapture the different theoretical concepts of culture, its methodologies and thought structures. It applies them to the organizational analysis to determine, in first instance, the influence of the culture on operations and the organizational efficiency (Deal and Kennedy, 1982).

Later, Morgan (1986) with his book *Images of the Organization* presented the symbolic conception through the use of metaphors about organizational culture. This was the beginning to the development of a new vision of the organization where it is conceived as a culture. That vision was not limited to observing the culture like an element rather of the organization (Gallardo, et.al, 1998).

Diverse definitions of this notion exist, one of them defines organizational culture “as a system of values and shared beliefs that interacts with people of a company, the organizational structures and the control systems to produce behavior patterns” (Roman, 1995:89). The culture of an organization is more than an abstract idea, it is something that gives sense to the daily life, it determines the way in which people inside a company act and react. In each organization there is an ideal culture and another real one that floats in the atmosphere composed by the spiritual values, habits, traditions, attitudes, symbols and many more elements of the daily chore of each company. One of the objectives of the Organizational Development theory is to minimize the difference between both cultures.

Organizational culture performs important functions. It serves as a control for guiding behavior of people, for example to define if they enter work at 8:00 am or at 8:15 am, if the style of editing memos is brief, if the women wear skirts and not pants, if the people celebrate anniversaries or birthdays, etc. The culture of the organizations also seeks to model the passions, attitudes and identifications of all its members.

The construction of a culture is a continuous and lingering process, it is formed through beliefs that communicate, day after day and through actions, in such a way that people feel to belong to the same tribe, creating a feeling of similarity.

### **3. CASE IRIS**

This work started from a petition by the IRIS company asking us to work in a strategic intervention on Organizational Development, facing threats that were more and more threatening and a very competitive environment (IRIS is a nickname of the company).

During the diagnosis process, certain questions related to the organizational culture emerged:

- 1 How does a culture of productivity settle down?
- 2 How are the cultural rules of the companies change?
- 3 Does one have in the company a defined culture?

The proposal from the systems analyst was that a cultural change was necessary in order to produce a new culture of quality, leadership and teamwork. Therefore a working project that contemplated the three basic phases of the Organizational Development (OD) Theory (diagnosis, planning and intervention) was developed as a starting point. The systems analysis lead to the proposal of a new approach using a combination of OD theory and SSM, a systems approach consisting of seven stages. It was needed in order to widen the scope of both approaches and to have a meta-methodology that will guide not only the diagnosis, but the whole process. Figure 1 shows this idea.

This combination of approaches will provide to the OD theory a holistic support in the three stages of the whole change process. For the purpose of this paper, only the first phase of the investigation will be presented in which Soft Systems Methodology (SSM) is proposed as a systems approach that is applied for getting enough information for systems planning. The rich

participation of all employees is vital for getting a shared vision of the future and at the end the most important part, the intervention, could be a systems intervention in which it is possible to get a wider involvement of the actors of the company that will provide them with a new common language and a shared vision and solutions.

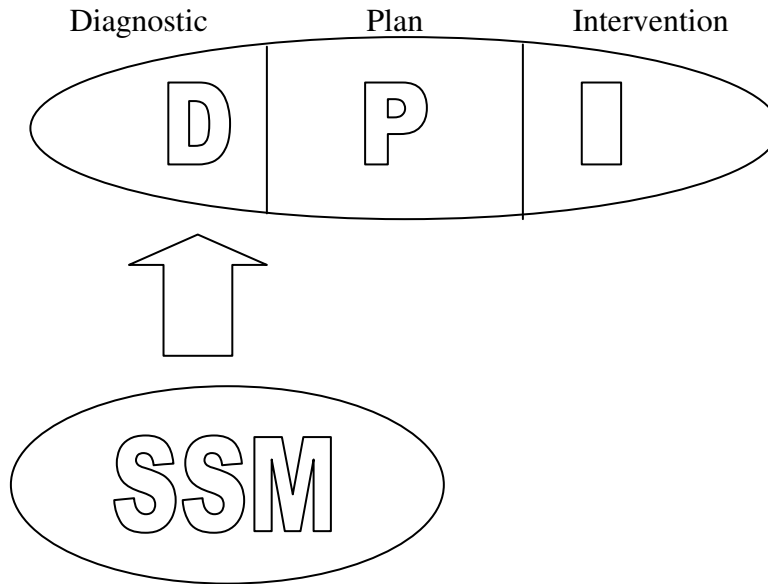


Figure 1. Combined application of SSM-OD

To fulfill the objective of carrying out a diagnosis of the organizational culture a casuistically design is used, where the accent is on the holistic thing, being observed with the biggest possible depth, on the group and the interrelation of factors (Ottenberger and Pérez, 1983:260).

### 3.1 ANTECEDENTS OF THE COMPANY

The company of concern is an European based company that started with 20 employees. This company in a period of 10 years developed an infrastructure of more than 300 people and a got a good share of the telecommunications market.

During the last years the IRIS company has been immersed in a series of structural changes that have been aimed to restate its mission, vision and towards transformation of its culture. They are aware that at this time the change is necessary to guarantee its long term existence, because they want to become an organization with bigger power and answer speed and to be focused in producing better results for the market.

## 4. SYSTEMS METHODOLOGY

The purpose of applying a systems methodology will now be clarified in terms of the overall intention of drawing attention to the development in all the people involved in this analysis of a systems vision. The Soft Systems Methodology of P.B. Checkland (1981) was considered as the most appropriate to be able to identify the problems of the company and to be able to communicate a full picture, as rich as possible of the variables to study. SSM is a seven stage methodology that will be applied stage by stage in the diagnosis process (see Figure 2).

Before explaining this methodology it is important to clarify that in the beginning SSM was applied as a seven stage problem solution approach, but with time, Checkland and Scholes (1990) widened the scope of the application taking the possibility of considering the problem situation as a culture, using 3 types of filters: a) the analysis of the intervention from a technical perspective, b) the social system analysis and c) the political system analysis. That is the reason

why when discussing feasible changes, they speak of systemically desirable culturally feasible changes. Therefore, the combination of a systems approach (SSM) within this wider scope and of the Organizational Development theory (OD) is the meta-methodology that guides the process of cultural change of this company and that is the essence of the innovation proposed by us.

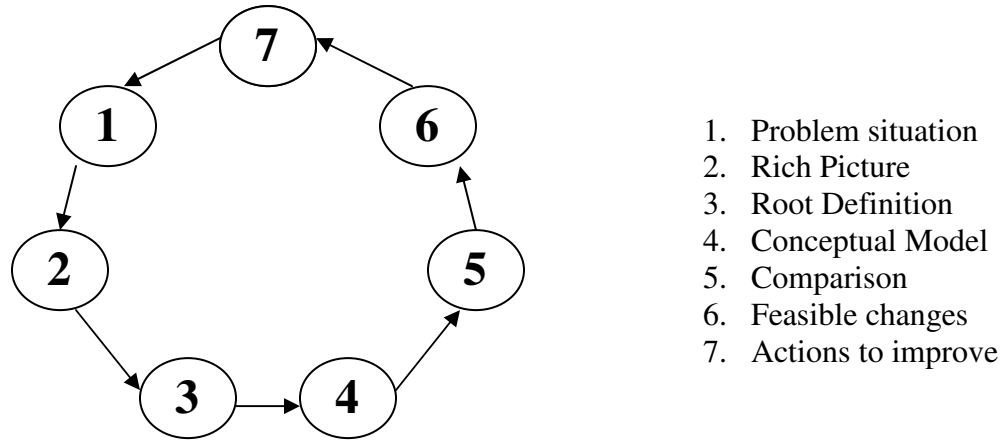


Figure 2. The seven stages of SSM (Adapted from Checkland (1988))

The following section will describe each phase of the SSM approach.

#### 4.1 Problem situation ( SSM phase 1 )

According to Checkland (1981) in the first phase of the methodology the analyst looks for having a wide description of the system and of the problematic situation, through the opinion of people involved with the situation. In IRIS company case, the first phase is to define the problem situation and it is described as follows:

The structure or physical space is an excellent variable that always need to be present in the elaboration of an organizational diagnosis. Those are reflective elements of an interesting analysis, with regard to the essence of the organization. In the case of the IRIS company these spaces are very contrasting. The area of concern for the company is considerably big, since it has diverse auditoriums, training classrooms, green areas to practice sports outdoors, lockers and a wide dining room.

The offices or work spaces can be classified in two areas, the external part, entrance to the company and the main building, with wide spaces that are luxuriously furnished, in which the top executives are located and with the remaining area in which the rest of the personnel works, under very rudimentary conditions, with old furniture and computers.

This shows that for the company it is important to project a good image to the exterior, and to have privileges for the management. It also reflects the vertical structure, a characteristic that prevails in all the spaces, tasks and people behavior. It is expressed on one hand by a clock to register the entrance and exit of most of the workers, a strict rule for the lunch hour and very strict non-written rules that are communicated in an informal way.

As for the visitors that come to the company, first they should go to the reception, which is conformed by several people that request the visitors identification, later a registration process follows when entering and leaving, accompanied by a paper form that should be filled and signed by the person to which the visit was in order to be entitled to leave.

As for the institutional pattern, it is highly bureaucratic; limits of power and a completely vertical structure prevail. Another problem that has been present for years was the existence of people considered as untouchable. This carries a hostile labor climate, lack of identity and a sense of uncertainty about their jobs among employees.

There are a lack of definition of functions that results in high duplicity of tasks. Multiple organizational and human barriers are observed which creates bad communication. A very marked distinction also exists between the new and the old personnel that causes frictions.

With regard to the traditions and customs, the main aspects that the workers carry out in their daily practice inside the institution are:

- 1 Schedule of food is the same one for the whole personnel.
- 2 Checking the exit and return of each worker, even when personnel is going to take lunch inside of the dining room of the company .
- 3 Carrying of identification as a staff member of the company.
- 4 Use of the computer as a means of communication more often to inform about programmed events, agreements, results of undertaken actions, etc.
- 5 Celebration of the anniversary of the company with diverse activities during one week.
- 6 Birthday celebration of each person.
- 7 Celebration of end of the year season.

With this picture of the company it is clear that a competitive and hostile organizational climate has brought unfavorable repercussions to the quality of the products and in the relationship with the customers. The main technical problems are in respect to the lack of communication among the different areas and that makes the development of new strategies and products for new customers a very complex task. It is a complex problem situation, a mixed world of technical, human, political problems in which it is nearly impossible to find where to start a change. In order to produce a photograph of the moment situation, the second phase of SSM assumes as time stops and produces a "Rich" Picture of the problem situation. It is more easy to understand that the previous description, because it contains figures.

**4.2 Rich picture (SSM PHASE 2 )**

A group of employees at all levels developed a Rich Picture, and it is like an organizational puzzle produced by all those involved in the problem situation (see Figure 3).

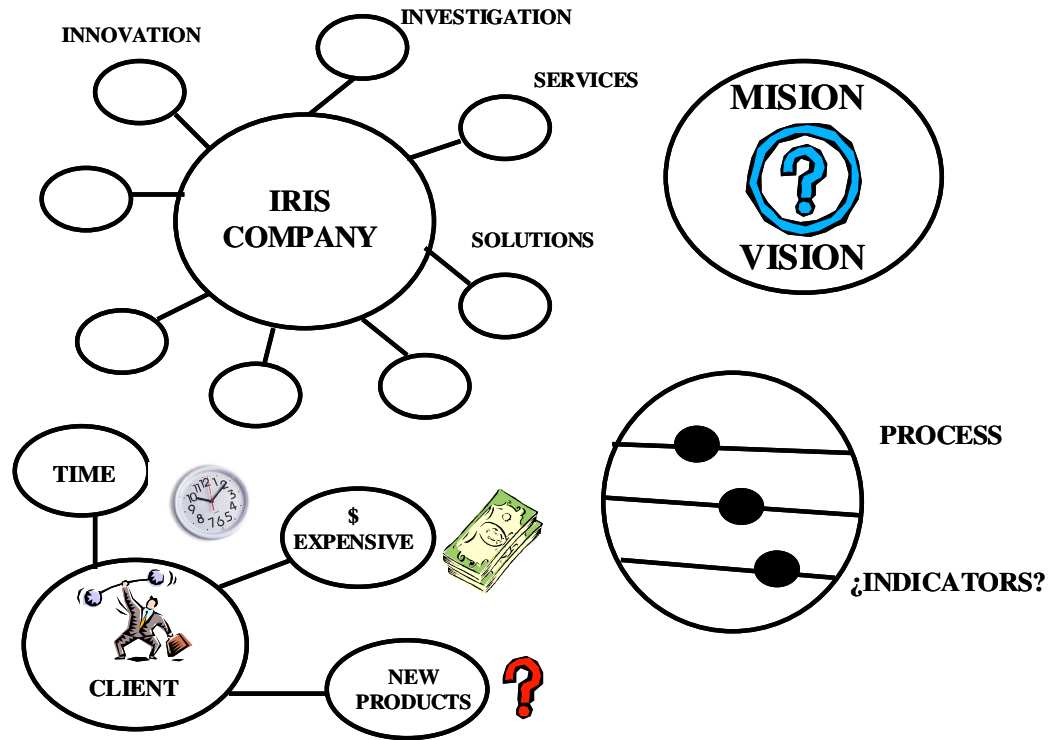


Figure 3. Rich Picture of the IRIS company case.

In this rich picture it is possible to identify the following situations:

- 1 An imbalance is manifested among the areas dedicated to the investigation and innovation of products and those in charge of offering services and solutions to the client with high technological content.
- 2 There is an ignorance of the mission, vision and strategic objectives of the company which has caused a diversity of interpretations and applications of missions and visions for different work areas. That in turn generates individualistic work culture that hinders those resources that are shared, blocking the achievement of the wanted profitability.
- 3 The evaluation of process is incipient, though alone they know each other indicators in certain areas. In general the evaluation is subjective.
- 4 The client's vision is that the products and services that the IRIS company offers him are expensive and there is little diffusion of innovative projects. The commitments of delivery of results are not completed. The client is unsatisfied, what bears to a risk in the demand of services to future; since the borrowed services are not aligned to their necessities. The client perceives that the company should improve the quality, the time of delivery and the costs mainly.

The building of a Rich Picture is an exercise of creativity and teamwork developed by a leader. It assumes that time stops and it confronts problems supported by his group. The next phase is to understand the identity and scope of the elements of the system under analysis.

#### **4.3 Elements of CATWOE, subsystems and root definitions (SSM PHASE 3)**

In the third phase of the methodology three dimensions should be analyzed, which are: the elements of CATWOE, the subsystems of the main system and the Root Definition that is the reason of being for the system.

##### **4.3.1 Elements of CATWOE**

This is one of the beauties of SSM, to produce some kind of drama in which the main actors are defined, the world vision is specified (it is the one of the systems analyst for using a systems approach) and the IRIS company Transformation system is defined about getting results for the client and actors and for the owner and the society.

Checkland(1988) proposes the following definition of the CATWOE elements:

|          |                       |   |
|----------|-----------------------|---|
| <b>C</b> | <b>Client</b>         | <b>Private and Governmental companies</b> |
| <b>A</b> | <b>Actors</b>         | <b>the employees</b>                      |
| <b>T</b> | <b>Transformation</b> | <b>the company</b>                        |
| <b>W</b> | <b>Weltanschauung</b> | <b>the analyst's vision</b>               |
| <b>O</b> | <b>Owner</b>          | <b>a group of investors</b>               |
| <b>E</b> | <b>Environment</b>    | <b>and the society</b>                    |

##### **4.3.2 Subsystems**

In this part the main subsystems are defined and is in this part, where the analyst provides a systems approach to the analysis, defining not too many subsystems, not too few subsystems. The best option is to find balance by consensus of the people involved in the analysis. The

subsystems were defined as follows:

- Social System
- Customers
- Systems Management (Analysis of Intervention)
- Human Resources
- Board of Directives
- Technology
- Political System

In defining the main subsystems, the systems analyst included the three filters proposed by Checkland and Scholes (1990): Political, Social and Technical Intervention.

#### 4.3.3 Root definition

It was found that it is not the mission of the company that is a shared description of the reason of existence - in this case of the IRIS company. The root definition is formed using verbs that will serve as the foundation for the development of the conceptual model. The root definition was defined as follows:

A company guided to **satisfy** the necessities of the industry for Telecommunications, through to the **fulfilled** expectations of the clients and to **compete** at a national level by means of the quality of products and offered services, **working** in consolidating a culture to **learn** and to **develop** the human factor.

The next phase four is about elaborating a conceptual model of the system in order to get the basic activities towards achieving this root definition defined. The used language is that of qualified verbs, instead of the names. The group of the verbs qualified are bound systemically and are structured in a logical sequence. This will allow to uncover the necessary activities for a system defined in the basic definition. As is pointed out by Zenón (1993) the role that these verbs or activities carry out is similar to that of the outline of circuits of an electronic apparatus, which is of great value, so that the responsible technician identifies the flaws in it and makes the pertinent changes.

#### 4.4 CONCEPTUAL MODEL ( SSM PHASE 4 )

This conceptual model contains the verbs of the root definition and it is an idealized view of the activities of the organization.

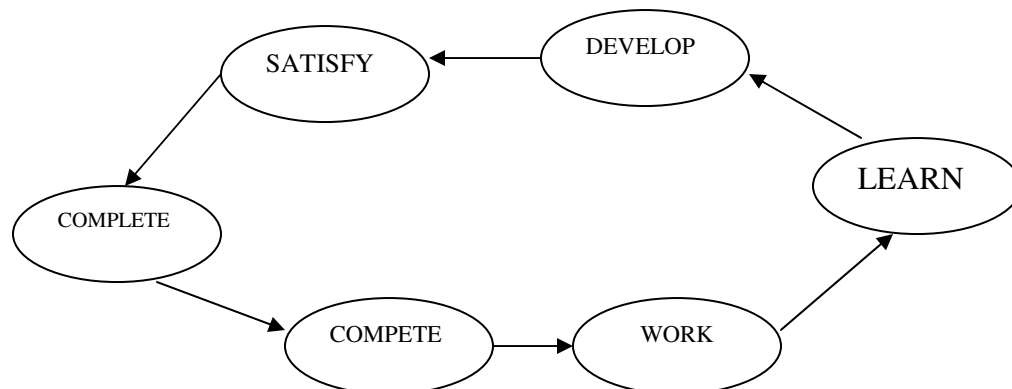


Figure 4. Conceptual Model of the IRIS company (Developed by the authors).

#### 4.5 Comparison of the model with the real world situation (SSM PHASE 5)

After building the conceptual model at stage four, we proceed in phase five with the participation of the interested parties to carry out a comparison of the conceptual model with the reality that is described in the Rich Picture. The purpose of this activity is to discover if the activities defined within the conceptual model are conducted at present.

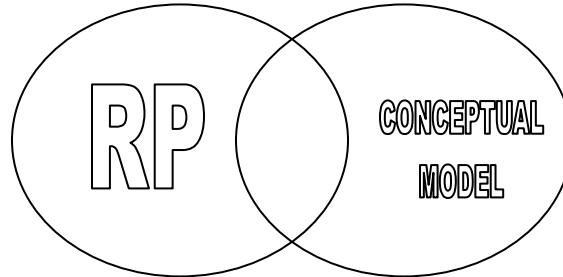


Figure 5. Comparison between the rich picture and the conceptual model of the IRIS company ( Developed by the authors)

According to the generated conceptual model and its comparison with the rich picture, the findings were recorded in tabular form. The main points from this comparison are summarized as follows:

- The company is not fulfilling the needs of the customers for telecommunications.
- There is a lack of full identity and there is a need to be recognized at national level as experts in the field, with a defined and highly competitive development in the market.
- This is a company where the human resources have not the abilities to work in a team mode and where learning is not permanent.

#### 4.6 Possible changes ( SSM PHASE 6)

Once the previous phases have been completed, people think a in phase six about the possible changes that can go from a modest adjustment to the design and installation of new systems. The changes should satisfy two requirements: to be desirable and feasible, which, apparently, is a simple point but in reality it is not always easy to accomplish and another one - to be culturally feasible.

The desirable changes to carry out are:

- 1 To redraw the organizational structure, making it more flexible, to assure that it supports the cultural change.
- 2 To generate a culture change, where a new corporate identity is developed and a commitment with the new mission and new vision of the company is maintained.
- 3 To develop the potential of people focusing on getting an attitudinal change that paves the way for cultural change and to promote professional and human development, imparting specific training about handling of conflicts, negotiation, communication, leadership and teamwork.
- 4 To develop and to implant a system of evaluation of their processes that allow to take actions of improvement at all the levels of the company and empower to evaluate the low level of client's satisfaction as a formal process, that means to promote the formation of a

process vision.

- 5 To develop working teams for solution of technical problems with the participation of all the areas involved.

#### **4.7 Actions to improve the problem situation ( SSM PHASE 7)**

In the seventh phase we proceed to the implementation of the suggested possible changes. This is the stage of taking actions that are both desirable and culturally feasible. Often such kind of changes could be classified in attitudinal, structural and procedural. It can happen that what is expected is achieved and that thus the original problem is alleviated, but new problems could appear and then we need to return to phase one, in a never ending cycle that is similar to the Deming cycle of continuous improvement. Thus the use of this methodology could lead to the development of a new culture of continuous improvement of all the subsystems of the company. In the case of this company, the five proposals at stage 6, were accepted and will be included in the systems planning for the cultural change.

### **5. CONCLUSIONS**

As it was mentioned previously, for the purposes of this paper only the first part of the investigation is presented. The IRIS Company is at the moment in the process of undertaking actions aimed at the achievement of the new managerial vision, where the types of changes to be implemented are two. On the one hand - those that concern the technological sphere and that which will be projected in the final products and the client's satisfaction, and those that correspond to the change of the organizational culture.

A diagnosis is presented here that includes a series of variables that communicate to the reader an integral holistic vision of the IRIS Company's organizational culture. Following the classic methods of anthropology that allow to carry out a cultural analysis, the first thing that was done was to know the community from within. We did that by being there for an initial period of six months, following the personnel's daily tasks and how they conform with the company, closely interviewing the staff, qualifying them, observing their interaction patterns, communication, leadership, attitudes, values, and beliefs. Also, through the use of Soft Systems Methodology by Peter Checkland the problematic areas for the company were detected. Later were identified the desirable and feasible changes to implement; establishing goals guided to technological development and resolution of technical problems, like to the establishment of programs that provide a better communication; creating an appropriate relationship among workers and management, redrawing the organizational structure, and the implementation of action teams on some of the most important aspects of the improvement. Another important result of the application of SSM is getting a systems vision, which means that the problems and solutions are not owned by an individual, but are responsibility of all the employees. That will demand a much greater emphasis upon learning and adaptation to a new cultural model if any kind of stability is to be achieved.

In this stance SSM proved to be an effective systems tool for getting information. It not only facilitated learning about IRIS but also learning about combining two scientific approaches SSM and OD theory. Also SSM allowed the involvement of the problem-owners throughout the diagnosis process as it is an excellent basis for expanding this participation to the process of planning and intervention that will be carried in a near future.

It is highly possible that if SSM was not used, many elements could be lost and maybe the most important loss would be to promote at all levels the search of a holistic , integral or systems view of IRIS.

A new conception or identity of the IRIS company is in the mind of many people now. This self learning process of its organizational culture was reflected in a Rich Picture, and in getting a shared view of the future based on the conceptual model and the analysis of the differences between Reality (RP) and the desired state (CM). It is developing a new culture of wide participation and involvement in planning and designing the future on the basis of a combination of the two scientific approaches, and that was the main objective of this project.

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