

CETRA CASE STUDIES

Partner: University of Salamanca General Foundation (Spain)

Name of the Company: Ibérica de Tecnología Avícola S.A. (IBERTEC)

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INTRODUCTION

The challenges of the XXI century require new forms of thinking about and understanding the complex, interconnected and temperamental world in which we live and work. Complex science provides us information about new interaction models with the capacity to create solid systems and promote a healthy adaptation of the new context.

This new form of thinking has displaced Science from the linear perspective with a perspective based on non-linear dynamics and the integration of knowledge through the disciplines – physical and social sciences and humanities.

With this in mind, a decision was taken to create a pilot project with the objective of creating an information packet which could disseminate experiences of companies in those themes. In order to accomplish this, various case studies were selected. The company Ibérica de Tecnología Avícola S.A. (IBERTEC) was chosen as the first case study because it presented the following characteristics:

- a small/medium-sized business
- highly innovative
- highly receptive

- Utilize complex systems of management to take decisions.

PRESENTATION OF THE COMPANY

The company was constituted in 1994 and in that same year the company began to develop its business activity. The company's business activity is centred in the food and agricultural sector principally in the breeding, incubation, commercialization and multiplication of genetic lines of laying hens. It is established in the Boecillo Technology Park and it is the only company in Castile and Leon which realizes this type of activity.

The company has 50 employees, 10 of whom have university degrees.

The company's numbers in 2004 are the following:

Sales: 7,000,000 €

Exports: 2%

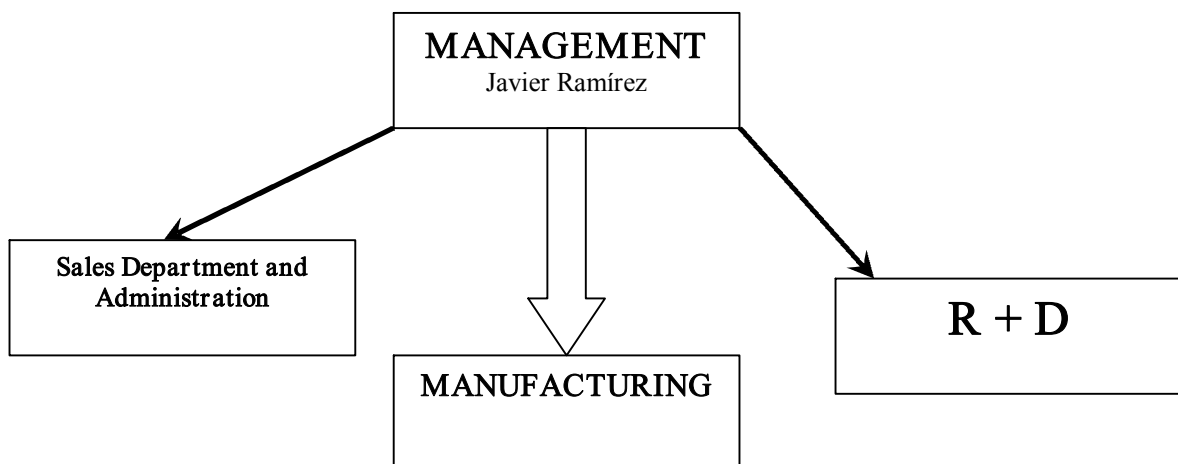
R+D above sales: 3%

Fixed assets: 800,000 €

Assets: 5,073,113 €

Fund: 589,546 €

The Organization Chart of the company is as follows:



The employees are distributed throughout the following departments:

- ✓ *Sales Department: 4*
- ✓ *Management: 6*
- ✓ *R+D: 4*
- ✓ *Production: 35*

IBERTEC S.A has a range of “products”.

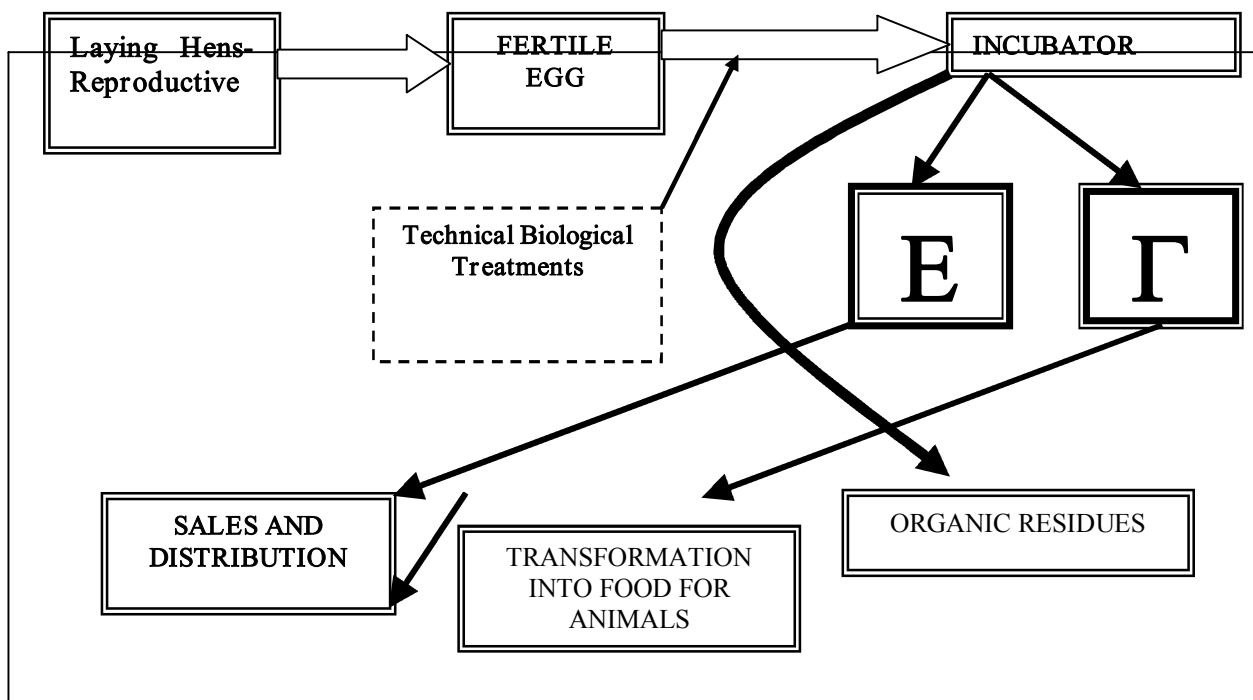
- the incubation and breeding of “day old chicks” (represents 70% of the company’s activity),
- the breeding of “4 month old laying hens” (20% of the activity); and
- the transformation of residues in food for wild beasts (10% of the activity).

All of these activities take place under a strict quality control system, quantified with different indicators. The two initial products are catalogued in relation to mortality, which is extremely low in IBERTEC’s case. This is due to the treatment and incubation conditions utilized, having special importance the internal actions of R+D which are developed for treatment through vaccines against bacteria which could attack the young creatures. Also of importance here is the improved genetics of the specie. The quality of the last of the products is measured through two indicators:

- the nutritional value in relation to the needs of the predator.
- the culinary satisfaction of the wild beasts.

Achieving elevated satisfaction levels among its clients.

IBERTEC S.A.'s manufacturing process can be seen in the following chart:



As can be observed in the previous diagram, IBERTEC's production process begins with egg laying. These eggs are incubated under the best technical conditions which exist in the market, until the moment the egg hatches. Uninterruptedly, they are selected and the females are separated from the males; the females are commercialized and distributed and the males are converted into residues.

The company's training is realized in a theoretical form, but more importantly it is specific, personalized, and previously planned by the company.

SALES ORGANIZATION AND TECHNICAL ASSISTENCE CAPACITY

The promotion of IBERTEC S.A.'s products present special characteristics and difficulties due to the fragility and temporary nature of the products. For these reasons, at the present time no promotion of the real product is realized, either by IBERTEC S. A. nor the competition.

The commercial network consists of direct company personnel distributed in regions. The transnational market is the responsibility of the management and administration.

IBERTEC S.A.'s differentiating characteristic is seen in the post-sales support of its products, due to the fact that it is based in preventive labors for the survival of the chickens. This project intends to exponentially increase customer service by being pioneers in this field at the European level.

ANALYSIS OF THE SECTOR OF THE COMPANY

The laying hen market has the following characteristics:

1º Cyclical Market: the level of sales of IBERTEC's products have cyclical ups and downs, which means that in certain periods there are important decreases in income. For this reason it is necessary to realize promotional activities in order to be able to expand to new markets and to maintain the existing market share now established for IBERTEC, proportioning an equilibrium between costs and income. On the other hand, the creation of new products opens new income lines until now unexploited.

2º Sales margin: the sales margin obtained through the sale of the product is very small compared to other activities.

3º Difficulties presented by sales promotion: the promotion of IBERTEC's products present special characteristics and difficulties due to the fragility of the market. For these reasons, at the present time, no real product promotion takes place, either by IBERTEC nor its competition.

4º The clients are laying hen farms, which represents a traditional market, not very dynamic, and for this reason it is necessary to undertake actions for the improvement of the breed which permits the renovation of the farms and a better movement of IBERTEC's commodities.

RESEARCH AND DEVELOPMENT ACTIVITIES:

IBERTEC S.A. undertakes R+D activities, in order to improve its product, through genetic and veterinarian research, and the consolidation of its market position. The following are the most successful R+D activities:

1º Detection of the bacteria which attack the young creatures.

2º Collaboration in the research of vaccines to neutralize infectious bacteria.

3ª Research about the improvement of laying hen breeds.

4ª Search for new commercializable products by taking advantage of the generated organic residues.

5ª Design of a prototype for the detection of parasites in fowls.

This research aims to obtain the product's maximum quality possible and assure that the security of the feed is absolute. Not everybody in the company participates in these activities; the participants are generally from sales, R+D, and management. The productivity of R+D personnel is known because of the perception of the products in the market.

INDUSTRIAL AND TECHNOLOGICAL CAPACITY OF THE COMPANY

The company has its own laboratory where R+D activities are developed. The following is a list of equipment utilized:

- Campana de flujo laminar vertical
- Refrigerators (2)
- Microscope
- Baño María termostato (2)
- Magnetic Agitator
- Phmetro
- Heaters (4)
- Autokey
- Still
- Dry Heat Oven
- Lector de ELISA

- Freezer (2)
- Incubator
- Bomba de Vacío (2)
- Lavador de placas
- Micrótomos (2)
- Centrifuges (2)
- Minividas
- Micropipetas (3)
- Thermostat (8)
- Balances (2)
- Vaccine Freezers
- System of membrana filtration
- Sondeos electrónicos

THE COMPANY AND THE COMPLEXITY

From IBERTEC the complexity is considered as *a structural change in the organizations or 'companies', in order to adapt to a new era, i.e. to face problems in a better and faster way; to shift from vertical structures to other structures pursuing the equilibrium between control and learning, hierarchy and network. In other words, to look for a more flexible and intelligent organization.* The administration sought a more flexible company with the capacity to quickly react to market changes.

The acceptance, by the employees, of the new structures was a slow process. Management organized technical meetings where the objective was to increase the consciousness on the part of the employee of the importance of the people in the organization, the new structure, and the acquired responsibility in the taking of decisions.

THE CHANGE

IBERTEC can be classified, due to the life cycle of its product, as a mature company. Its product, one day old chicks, is found in a stagnant phase in a

saturated market. Because of this, the company designed a future strategy based on:

- The reduction of manufacturing costs.
- Increase the quality of the product.
- Better projection among its clients.
- The anticipation of market tendencies.

In order to meet the objectives, the possibility of implementing complex management systems and the development of R+D+I projects were established.

IMPLEMENTATION OF COMPLEX MANAGEMENT SYSTEMS.

The most pressing problem detected by management was the rigidity of the structure in passing from a company with a vertical structure to a company with a horizontal structure with weight distribution. For this the company had to try an equilibrium between flexibility and hierarchy. Adopt the positive points and materialize the change. *This was achieved integrating the hierarchy in all of the processes* in a manner that management was conscious of all of the decisions taken by members of the structure. As a consequence the following was achieved:

- A bidirectional information system between the structure and the management.
- Large capacity for decision-making.
- Utilize the brain power of the company to solve any problem.
- Belong to all the business clubs of the sector, from which information would be gathered.
- Install a Feed Back with the client via the sales area.

This practice can be achieved in companies which do not have an excessively large structure, such as the case with IBERTEC.

DEVELOPMENT OF RESEARCH AND DEVELOPMENT PROJECTS

The market in which the company is located is a very competitive market with a very small sales margin. To avoid these pitfalls, IBERTEC seeks to be differentiated in the market due to its quality, which is measured by the longevity of the product; it is for this reason that this type of project is considered (those which improve quality and permit a better sale price). Principally, it consists of the acquisition of knowledge which can contribute to a considerable improvement of the products.

The establishment of the projects and their posterior development suggested by the information received through:

- Clients, informed of their needs via sales Feed Back.
- The business organizations which mark the sector tendencies
- Mixed organizations (public organisms, companies, and workers) which regulate the sector.

Once the information is received, defined as a tendency or a need, a horizontal structure arrives whereby all of the brain power of the company can be taken advantage of in order to discover problems and find their possible solutions. Definitively to design a R+D+i Project.

One of the last projects realized was the conversion of a residue into a value-added product. The **key actors** of the Project were:

- The clients.
- Production department.
- Internal Marketing.

With internal marketing the company seeks, simple, the motivation of personnel. This is much easier in a company where, structurally, all of the workers can be valued for their implication in the as well as their specific job function.

The **environment** of the action was European.

The **duration** was 36 months.

The phases were:

- Capturing of important client information (Need)
- Legada de la información a la estructura de la empresa.
- Utilization of internal marketing.
- Creation of a new product by the Manufacturing Department.

And, finally, the consequences were:

- Increase of market share
- Increase of the company's image
- An increase of B° and
- A valid verification of the new systems functioning

CONCLUSIONS

Due to the moment in which the company's product is found, mature, the company decides to design a future strategy with the following objectives:

- The reduction of manufacturing costs.
- Increase of product quality.
- Better projection among its clients.
- The anticipation of market tendencies.

For the acquisition of these objectives a structural change in the company was sought whereby the company would pass from a vertical structure (rigid) to a horizontal structure (flexible). *This was achieved by integrating the hierarchy in all the processes whereby the most important person inside the company is the one who better knows the field.* As a consequence of this the following was achieved:

- A bidirectional information system between the structure and the management.
- Large capacity for decision-making.
- Utilize the brain power of the company to solve any problem.
- Belong to all of the business clubs of the sector to obtain information.
- Install a Feed Back with the client via the sales area.