

Administrative Model for the Organization of Agro-Industrial Micro-Enterprises at Universidad Tecnica Del Norte.

Edison Rodríguez¹

¹ Instituto Tecnológico Superior José Chiriboga Grijalva, Ibarra – Ecuador,
errodriguez@tecnologicoitca.edu.ec

Article Info

Volume 83

Page Number: 25837– 25844

Publication Issue:

May - June 2020

Abstract

In this work, an administrative model is structured for the organization of the self-managed agro-industrial micro-enterprise at Universidad Tecnica del Norte, applying administrative tools that guarantee work efficiency, allow offering of low-cost services and obtaining financial returns from the sale of products manufactured during the teaching-learning process. As it is a purely practical project, emphasis is placed on human talent management, financial management and strategic planning; The methodology for this proposed model considers: administrative management based on strategic planning through the democratic participation of staff and managers of the university micro enterprise; the administrative body that considers the structural and functional system; human talent managers that consider the wealth of human knowledge- base, “doing” and “being” as stated in the job specifications and incentive system; and, financial management that focuses on the design of financial policies and the proposal of money flow. The analysis of the external environment shows that it is speculative; The analysis of the microenvironment determines the existence of three participation markets: consumption of manufactured products, technology transfer, and applied research. Outcomes show that they are highly attractive, unattractive, and medium attractive, respectively; The internal environment is aggressive, which indicates that everything that is proposed should be successful. The effective application of the strategic plan, as support so that, in the immediate future, the model designed according to the needs of the productive units, can be maintained over time and maintain the character of micro-enterprises with operational autonomy.

Article History

Article Received: 11 May 2020

Revised: 19 May 2020

Accepted: 29 May 2020

Publication: 12 June 2020

Keywords: Strategic plan, university microenterprises, administrative model.

I. INTRODUCTION

Models are the core of rational administration; they are a means of simplifying and analyzing complex situations or systems. (Valerio and Mogollón. 2019). An efficient administrative model in an organization requires an operation with a systemic approach where people or work groups respond to a structure and planning designed for their reality.

Small and medium-sized companies in the Ecuadorian business system contribute to the country's economic growth; According to the last

national economic census of 2010, around 99 out of 100 establishments belong to the SME category (López, 2015); besides that, due to their particularities, they require a new model that is managed based on the principles of participation, equity, solidarity, social responsibility and distribution of wealth; that allows those involved in this system to achieve development. (Carrión, Zula, Palacios y Castillo, 2016).

In this context, the Ecuadorian university system, through its technical courses aimed at agricultural

and agro-industrial production, must contribute to the training of competent professionals who can solve problems, accompanied by independent self-management processes, thereby increasing the productivity of educational institutions, supported by the organizational processes that assist modern management.

This academic training implies additional expenses for raw material processing that, in the case of Universidad Tecnica Del Norte (UTN), is a challenge for the educational-productive unit of the agro-industrial engineering school and which requires financing and solid and autonomous administrative management.

The Ecuadorian Constitution supports the initiative of higher educational institutions in the search for alternatives that lead to the technical development of future professionals and promote the self-management of their resources in accordance with the updated organizational processes of modern management. This autonomous system must be planned and controlled, through productive projects that convert small practice laboratories into productive units that generate good economic and academic profitability in the medium term.

This work is framed within the mission of business management, applied to the self-managed educational unit of the UTN within the field of agro-allied businesses, because this institution is the axis of technology and agro-productive development north of Ecuador through its School of Agro-industrial Engineering. Currently, the laboratories of the School of Agro-industrial Engineering have ceased to be just laboratories and have become an educational-productive unit (Twelfth General Provision of the Organic Statute of the UTN).

The proposed administrative management model provides a tool for the development of the educational-productive unit and its growth as a microenterprise of the UTN, which, due to certain financial limitations and internal regulations of the university, have not followed its course to become microenterprises with autonomy.

The objective of this research is the achievement of

greater efficiency and effectiveness for these productive units, with the sole desire that they become autonomous university companies, used as the main educative factor in academic preparation and the professional strengthening of graduates of the agro-industrial engineering school. It also serves as a study of the economic compensation for the University through an administrative model created for the organization of university-managed micro-industrial micro-enterprise, which facilitates incorporating into its organizational system, administrative tools that allow all those involved to reach the desired levels for internal and external clients of Universidad Tecnica Del Norte. Furthermore, this project will affect the academic training of future agro-industrial engineers through the generation of low-cost services and the financial profitability of their micro-enterprises.

1. Literature review

There are few studies that help to contextualize the problems that Ecuadorian universities have when it comes to training professionals, generating knowledge and receiving income from the sale of its services and / Or products.

One study concentrated its efforts on proposing an administrative model to be implemented in Public Institutions of Higher Education in Colombia, its purpose was to promote entrepreneurship in the University community. The proposal includes aspects such as awareness-raising, training and support for the business creation process. (Lanzas y Castaño, 2006)

The proposed administrative model is formed by the following elements (Lanzas and Castaño, 2006):

- Administrative structure
- Strategic Objectives by Functional Areas
- Charge Plan
- Sources of funding
- Impact Indicators

Administrative management based on planning.

Strategic management is considered the art and

science of formulating, implementing, and evaluating cross-functional decisions that enable the organization to achieve its objectives. (Toso,2015). This statement implies that strategic management aims to integrate management, marketing, finance and accounting, production and operations, research and development of computerized information systems to achieve the success of the organization.

The formulation of the strategic plan involves three well-defined phases: the first is philosophical, which summarizes what the company wants to be and does and identifies, primarily, what can be done, manufactured or produced. In this phase, the following questions are answered: Where are you today? What is being done? Where should you go? How are you reaching your goals? That is to say, tries to determine the Vision, Mission, Policies, Values and Products, which will be the guidelines for the administration of the company. (Goodstein , Nolan, and Pfeiffer, 2016).

The second phase is Analytics, which contributes to an analysis of the external and internal situation of the organization in order to identify the parameters that need more attention and urgent changes. The third phase is the definition phase, which is the final phase of a Strategic Plan and becomes a conceptual umbrella for development and action; It fulfills two purposes: Identify and declare the Strategic Objectives of the organization and Identify strategic projects or maneuvers to define the Action Strategies. (Toso, 2015).

The Organizational structure to support administrative management. Vásquez (2007) cited by Gudiño (2009) affirms that micro-enterprises usually have a simple organizational structure that streamlines decision-making and adaptability to changes in the environment, while improving the flow of information and communication among its members; which results in greater flexibility and structural adaptability. Family businesses or small production units have a high level of commitment and motivation amongst its members, at the same

time, that proximity to the client gives it information advantages and greater flexibility to produce small quantities in the short term and with certain specifications.

One of the first actions that the modern manager must carry out is the organizational design process, whose specific pattern is the organizational structure that allows the activities of the members of the company to be divided and coordinated. This approach is based on four fundamental principles: The division of labor, the departmentalization, the hierarchy and the coordination. (García, Mora & DeMiguel).

The organizational structure is not static and is created following a logical process in which the following phases intervene: the first phase consists of dividing all the work into a series of tasks with a logical approach, taking into account individual capacities, homogeneity of the operations and the means to carry them out. Finally, the jobs must be related to the unit through ties and connections with the other parts of the structure. (New found land Editors, 2015). This relationship should be dynamic for the relationship between people, groups of people and communication, in addition to inviting an understanding of systems, administrative subsystems, workflows and decision procedures.

Another important aspect in the organizational structure are the functions or activities with similar characteristics that must be carried out for the company or organization to achieve its objectives. The functions can be: explicit and implicit; main and complementary; direct and executive; and, managerial. (Graeme,2015).

The administrative structure also foresees the definition and construction of the organizational charts that will represent the graphic structure of a company; These organizational charts refer to the way in which the activities of the organization are divided, grouped and coordinated, as well as the relationships between managers and employees, between managers and managers and between

employers and employees.

Management of Human Talent

Human talent is considered the most valuable asset of a company and its management involves organizing and directing, but also planning and controlling the various activities of workers in a company. The main objective of human talent management is to promote the learning of people, through activities that allow developing the knowledge of the individual to allow personal, professional and company growth. (García, Mora & De Miguel, 2016).

The modern company must link its processes with personnel who base their work on visible results that recognize efficiency, effectiveness and merit. In this sense, the approach to human talent management based on the competencies required in the different positions, is also based on knowing, doing and being. (EAPN2016).

“Knowing” is the set of knowledge that the position requires for it to be developed satisfactorily, that is, the knowledge acquired academically and / or empirically; “Doing” is the ability to execute the tasks that affect the productivity of the position to achieve the expected results; and, “Being” is the qualities of people and attitude towards work. Conditions and characteristics required for the job; this is organizational culture. (Toso, 2015).

Financial Management

The importance of financial resources and their adequate structure or composition in the business environment is relevant. These resources constitute the origin or reason for the investments or working capital, that is, the assets of the company. The desired structure of the investments will be that which allows obtaining a maximum return on them. Of course, the company must ensure that such profitability is higher than the cost originated by the adopted financial structure.

In this sense, financial management proposes, among

other aspects, to emphasize sources of financing, financial decisions, cash flow, and financial policies for investments, payments, etc. (García, Mora & De Miguel, 2016).

The sources of financing for a company are usually internal or external, from the latter, you can access long, medium or short-term financing. For state companies, the initial form of financing is the state, through annual budgetary allocations; however, the characteristic of a public company involves the criterion of self-financing, that is, business activities must be financed by the product of the business operation.

Microfinance, as a source of financing for a company, was born as an alternative financial mechanism to formal markets such as regulated banks and credit unions. Its purpose is to face the difficulties of credit rationing or redlining practices, which are applied by institutions to large market segments, especially to people with low income or are geographically distant from urban areas. Caldas, Reyes and Heras, (2017).

II. METHODOLOGY

This work was carried out at Universidad Tecnica Del Norte (UTN), an Ecuadorian public university. The administrative model was defined taking into account its final structure according to the need determined in the interview conducted with the administrative manager of the edu-productive unit. The administrative management structure was developed from the formulation of the strategic plan, for which the participatory methodology was chosen because members of the product development units participated. The administrative structure was represented by the structural organization and redesigned from the functions and positions existing in the productive units, including the concepts of division and coordination of activities while also considering the principles of the organization; Human talent management involves structuring job designs by competency profile, for which the knowledge, doing and being approach was used;

and, for financial management, financial policies were designed based on the need detected in the interview with the production unit manager.

The formulation of the strategic plan is developed with the participation of four career professors, a planning coordinator, two technical professors from the productive unit and nine students. The work was organized into three groups that consisted of: a teacher, a representative of the production units and four students. We worked by launching participatory events in four days of 6 hours each. The techniques used were direct observation, secondary sources and a participatory workshop seminar.

In the initial phase, we worked with the participants to determine the institutional philosophy with the formulation of the vision, mission, policies, values and products for the production units.

The next phase was based on the analysis of the current situation, through the evaluation of the organization's competitive framework, establishing empathy for the system and identifying possible initial markets. This phase includes the analysis of the external environment, the micro environment and the internal environment, trying to define the critical factors, determine the strengths and weaknesses and calculate their impact.

In the final phase, the strategic objectives, strategies and projects to be implemented were defined.

a. Initial diagnostic

The edu-productive unit of the Agro-industrial Engineering Department is made up of the milk processing plant, the meat processing plant and the fruit and vegetable processing plant; each one has the respective machinery for the processing and storage of raw materials and finished products, as well as having basic resources such as water and electricity.

The products obtained through the production practices are: fresh cheese, mature cheese, flavored

yogurt, caramel, smoked chorizo, smoked chicken, selected cuts of meat, jams, fruit in syrup, fruit sweets and treated fresh vegetables. These products were sold to the professors, administrative staff and students of Universidad Técnica del Norte.

For the work, the productive unit had five people between technicians and administrative personnel, in addition to the students who, depending on the occasion, attend the productive unit assigned to them.

The financing of public universities, as operating capital, was made through a revolving fund of \$ 1000.00 USD, which was delivered to the Directorate (H.O.D).

Finally, the functional organization of the Edu-Productive Unit is improvised and lacks documents that contain at least a structural organization chart and the functions and responsibilities for each job.

III. OUTCOMES AND DISCUSSION

The administrative model proposed for the organization of agro-industrial microenterprises at the “Northern Technical University”, was structured as follows:

- Administrative management based on planning (strategic plan)
- Organizational Structure (structural and Functional organization)
- Human Talent Management (profile by competencies)
- Financial Management (Financial policies, financing, money flow)
- Management control

a. Strategic plan

It contains the philosophy (mission, vision, policies and values) that guides the fulfillment of the business objectives of the productive unit, which have a conceptual relationship with the institutional objectives of the UTN; The products prioritized in participatory work are aimed at: obtaining products

made from milk, meat, fruits and vegetables; Agro industrial Research Applied in the areas: dairy, meat, fruit and vegetables, leading to the development and design of new products and technologies that help solve problems within the productive sector; and, Technology Transfer, as a specialized service to contribute to socio-economic and productive development.

The situational analysis reveals an external environment of a speculative type, which indicates that there is no clarity between threats and opportunities: therefore, it is not known what would happen if the Critical Factors of Success underwent any change. From the analysis of the micro environment oriented to the quality of the products offered by the productive unit, it is obtained that: the consumer market for manufactured products is of a high attractive type; that is, it has many opportunities for growth and competition; the market for the transfer of technology has a low attractive medium market competition; and the applied Agro-industrial Research Market is determined as medium attractive; that is, applied research has a very low level of competition from other institutions.

The analysis of the internal environment allows us to deduce that empathy with the environment is aggressive; that is to say, the actions that are to be implemented are carried out without wasting time, since the environment is favorable.

The strategic plan ends with the formulation of 10 strategic objectives that guide the prioritization of strategies and projects for execution and that are outlined in a strategic map.

b. Organizational structure

The Administrative structure is made up of the organizational structure (organizational chart structure) and the functional organization (function manual).

The organization chart proposes a structure made up of 7 people in the administrative-productive sphere

and the groups of students who were placed as operational personnel, as shown in the figure.

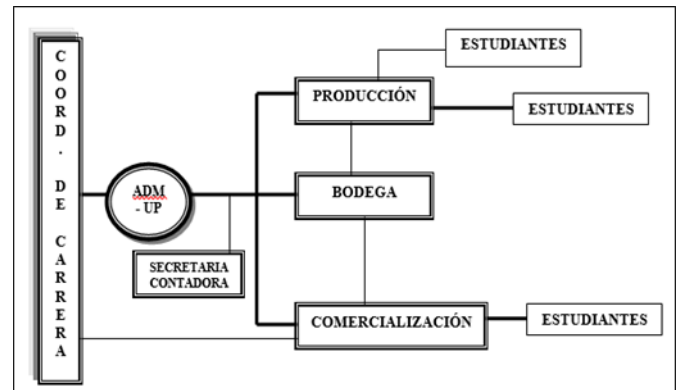


Fig. 1. Structural organization chart Source: Author

The functional organization develops each job parameter, allowing an orderly work system, carried out without altering the proposed structural organization. The proposal breaks down the purpose of the job, duties and responsibilities, organizational relationships and job specifications.

c. Human talent management

Human talent management for productive units is made up of: the competencies required in the four positions identified, based on knowing, doing and being; the competency profile-based position specifications for future recruitment; and, a system of formal and informal incentives.

d. Financial management

The proposed financial management mainly involves the determination of policies and actions aimed at achieving an efficient administration of the financial resources granted for this purpose or that were generated by public universities in order to guarantee the balance of the organization. This means that public university firms would operate operationally independent, with an account that guarantees the use of their funds in an efficient, autonomous and responsible manner. The UTN financial department will carry out quarterly monitoring and annual audits.

To correctly evaluate the different financial management alternatives, payment, collection, cash flow and investment policies have been designed.

Cash or money flow will have the following structure:

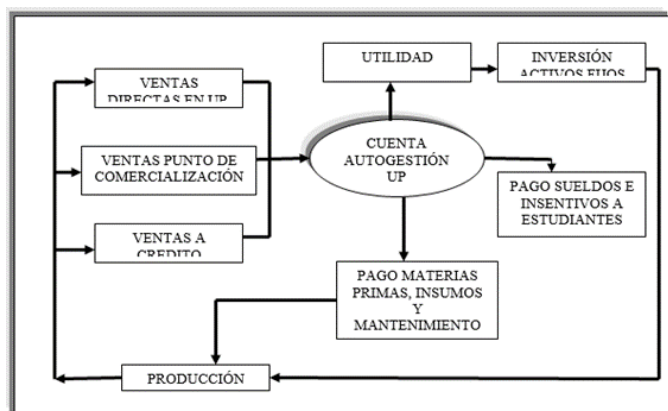


Fig. 2. Cash flow proposal Source: Author

IV. CONCLUSIONS

The challenge of higher education in technical courses, such as agroindustrial engineering, must collaborate with the integral formation of the professional future so that its capacity in the labor field proposes fundamental changes in the productive development of a country.

The operations of Ecuadorian university laboratories must undergo a substantive and profound change, becoming "educational units"; where the technical practices for the training of new professionals must take, apart from their technical-educational approach, a business direction that seeks financial performance for their self-financing or at least for part of it.

It is important that the administrative model for university micro-enterprises, has in its structure components such as: administrative management that is based on strategic planning developed with the greatest objectivity possible and allow focused administrative direction, making the units edu-productive; the administrative organization that displays efficient structural and functional organization; human talent management highlighting the job specifications according to the administrative structure, as well as forms of incentive and human talent management policies; and the management of

financial resources autonomously, with reference to the forms of financing, financial policies and cash flow in the edu-productive unit. that act as pillars of its operation and survival; and ensuring productivity analysis in view of ensuring that these micro-enterprises remain productive and also maintain its educational standard.

Finally, it can be said that, although the administrative model is a very valuable tool to direct operations of the productive unit, it is essential to have the experience and expertise of the professional responsible for managing them, who will seek the most effective way to carry this model from a proposal to actual practice to achieve the expected results, acting as a pillar of its operation and survival; and make analyses in view of ensuring that these micro-enterprises are in productive and educational states.

REFERENCES

1. Caldas, Reyes y Heras, (2017). *Gestión Administrativa (Empresa e iniciativa emprendedora)*. Edit. Editex. Madrid, España.
2. Carrión, L., Zula, J., Palacios, W., & Castillo, L. *Modelo de gestión administrativa para las pequeñas empresas de la industria del catering de la economía popular y solidaria de la ciudad de Riobamba*. *Jel Clasificación*, 55 -76.
3. Chmelíková, G., Krauss, A. & Dvouletý, O. (2018). *Performance of Microfinance*. (2016)
3. EAPN, (2016). Disponible en: <http://eapn-andalucia.org/>
4. Graeme, R. (2015). *La pequeña y mediana empresa*. Edit. Hispano Europea. España.
5. Garcia, M., Mora, J. y De Miguel, J., "Técnico en Gestión", Tomos I y II, Edit. Cultural S.A., 2016, Madrid.
6. Goodstein, L., Nolan, T., y Pfeiffer, W. (2016). *Planeación estratégica aplicada. Cómo desarrollar un plan que*

- realmentefuncione. Edit. Mc Graw Hill. Colombia.
7. Gudiño, E. (2009). La empresa y la contabilidad. Edit. Mc Graw Hill. México.
 8. López, J. Modelos Administrativos adoptados por las micro y pequeñas empresas de la ciudad de Pereira. Universidad Gran Colombia. (2015).
 9. Lanzas y Castaño, (2006). Modelo administrativo para una unidad de emprendimiento en instituciones públicas de educación superior, Caso, Universidad Tecnológica de Pereira. *Sciencia et Técnica*. ISSN 0122-1701.
 10. Núñez, M. (2003). Propuesta de un Modelo Empresarial para potencializar la Unidad de Producción del lácteos de la Escuela de Ingeniería Agroindustrial de la Universidad Técnica del Norte. Tesis de Magister en Gerencia Educativa; Universidad Central del Ecuador. Quito.
 11. República del Ecuador. Constitución Política del Ecuador. Congreso Nacional. Quito.
 12. Terranova Editores. (2015). Economía, administración y mercado agropecuario. 2ª. Edición. 2015; Colombia.
 13. Toso, K. (2015). Planeamiento Estratégico. Acciones tácticas para alcanzar sus objetivos Empresariales. Edit. Bussines. Lima.
 14. Universidad Técnica del Norte. (1990). Estatuto Orgánico. Honorable Consejo Universitario; 1990; Ibarra.
 15. Valerio y Mogollón. (2019). Modelos para la Gestión administrativa, editorial Universitaria, Colombia.