Documentation of the marketing, maintenance and financing processes for an agribusiness company in southern Sonora

Documentación de los procesos de comercialización, mantenimiento y financiamiento para una empresa de giro agroindustrial del sur de Sonora

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Abstract

Organizations that want a high competitive level are in the search for the standardization of their processes with the formalization of their activities, using tools that adequately contribute to their correct performance. The project was developed in an agribusiness company in southern Sonora, which lacks the documentation of the processes, which does not allow a clear definition of the functions of the different positions. For this purpose, the objective of documenting the marketing, maintenance and financing processes to standardize the activities carried out in them was established. The procedure was structured by the following steps: elaborate the process map of the company, determine the processes to document, obtain the current practice, define the format to document, elaborate processes in draft, validate the processes and finally correct and deliver them for use. At the end of the project, the standardization of the activities was obtained through the documentation of the commercialization, maintenance and financing processes of the company, thereby obtaining the means of support for the effective and efficient operations of the processes, which impacts in satisfying customer needs.

Standardization, Documentation, Improvement

Resumen

Las organizaciones que quieren un alto nivel competitivo están en la búsqueda de la estandarización de sus procesos con la formalización de sus actividades, utilizando herramientas que contribuyan adecuadamente en el correcto desempeño de estos. El proyecto se desarrolló en una empresa de giro agroindustrial del sur de Sonora, que carece de la documentación de los procesos lo que hace que no permita una clara definición de las funciones de los distintos cargos. Para ello se estableció el objetivo de documentar los procesos de comercialización, mantenimiento y financiamiento para estandarizar las actividades que se realizan en ellos. El procedimiento se estructuró por los siguientes pasos: elaborar el mapa de procesos de la empresa, determinar los procesos a documentar, obtener la práctica actual, definir el formato para documentar, elaborar procesos en borrador, validar los procesos y finalmente corregir y entregarlos para su uso. Al finalizar el proyecto se obtuvo como resultado la estandarización de las actividades a través de la documentación de los procesos comercialización, mantenimiento y financiamiento de la empresa, obteniendo con ello el medio de soporte para las operaciones efectivas y eficientes de los procesos, lo cual impacta en la satisfacción de las necesidades del cliente.

Estandarización, Documentación, Mejora

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Introduction

Agriculture in Mexico is considered one of the main activities that provide greater relevance to the country's economy, generating a large amount of employment; and it is considered as the most important productive sector from a social, economic and environmental point of view, since it depends on the food of millions of people. Agribusiness is the economic activity that includes the production, industrialization and commercialization of agricultural products, forestry and other natural resources (Shared Risk Trust, 2017), this sector requires the addition of value to the products of the agricultural industry.

Mexico leads in the agribusiness sector for understanding the production, industrialization and commercialization of agricultural, forestry and biological products; thus contributing value to agricultural products generating durability and availability, especially those that are more perishable. (Shared Risk Trust, 2017). The importance of agribusiness in Mexico served as the main activity, placing it at a high level compared to the world, being one of the main exporters of food abroad.

The companies of this agroindustrial turn were in the need to make changes and implementations of quality management systems, as well as the standardization in the processes and control of their operations, that is why to the general economy and mainly to this type of industry, has given them good results and in a very productive way, the validation of measures and general parameters in their processes and procedures.

According to Saavedra and Hernández (2008), they establish that the economic importance of MSMEs (Micro, Small and Medium Enterprises) stand out in the fact that it fulfills a role of great relevance in the generation of employment, reaching an average of 64.26% of the total jobs. The importance of medium-sized companies has increased greatly since they are more than half of the employment generators, thus being vital for the region's economy.

The company under study classifies in this area, is of the agribusiness and is dedicated to the marketing of grains and financing; It has three plants located in different parts of southern Sonora in the northwest of the country with a total of 130 employees.

It was founded at the beginning of the year 1996, was born by the commitment of its founders, with and for the development of the primary economy in In the region, they are very clear about their vision that growth must be created for the benefit of producers and consumers, working together in their development, being of their main activities the financing of small, medium and large producers, collection and marketing of grains, seeds, fatty pastes and oils, as well as the conservation and safe storage thereof.

The organization has a young, enterprising, professional, prepared, updated and long-term vision team. In each of the business contacts with producers, they will find in the organization a reliable team to build long-term relationships, with win-win training, with the security of commitment and the search for solutions that support the producer.

Its mission is to be the best option of the agricultural producers in financing, commercialization and to give added value to their products, to obtain a professional and human growth of all the members of this one; He also has a vision which states that he wants to become a leading company in the northwest and west of Mexico in the Agroindustrial activity.

It has a series of objectives, which are to support the agricultural sector with more appropriate financial alternatives, ensure the supply of raw materials and finally have a continuous improvement in the company's processes. Likewise, it has values that ensure the commitment, honesty, loyalty, participation, spirit of service and teamwork of all its members.

Having documented processes is a vital necessity in an organization, since it talks about the maturity that it has and its competitive level, it is a section of the ISO 9001: 2015 standard, organizations that are certified with such regulations have to comply with the different sections it contains and one of the most important is the documentation of the processes it has. In the company under study there are more than 10 processes, of which none is documented.

Problem Statement

Organizations that want a good competitive level are in the search for the standardization of their processes with the formalization of their activities, using tools that adequately contribute to their correct performance. The company under study lacks the documentation of all its processes, which does not allow a clear definition of the functions of the different positions. Likewise, there is no physical support that validates the activities and procedures that are carried out in it.

When a new member of the organization enters to work, it is necessary to have a support in physical that helps him to realize his correct work of his functions. Given the above, the following is proposed: there is a need to document the marketing and maintenance processes of an agribusiness business as it does not have the standardization of its activities.

Objective

Document the marketing and maintenance processes of an agribusiness company dedicated to the sale of grains, to standardize the activities carried out in them.

Justification

With the implementation of process documentation it is intended to obtain three processes with specific and standardized activities. The main beneficiaries will be the company since it will have the formalization of its activities and the operators that will have a document with work instructions and will be part of their intellectual property. And the other beneficiaries would be the workers as it will reduce ambiguities, confusion or ignorance of the process. In case the established activities are not followed, the process can be unintentionally or accidentally altered, thereby causing loss of matrices.

Theoretical framework

The theoretical aspects that support the investigation for the documentation of the processes are shown below.

Quality management system

The quality management system is a means that is useful not only to give confidence that the product or service will meet certain specifications, but also to reduce operating costs. Every quality model seeks that "things are done well the first time"; This creates an organizational culture that minimizes waste, avoids reprocessing and optimizes the use of inputs. More than a simple method for minimizing costs, this also becomes a driver of increased productivity in organizations (Servat, 2005).

The quality management system is one of the most implemented management systems in organizations worldwide. Any organization that is willing to implement the ISO-9001 standard must know and take into account the principles and foundations that underpin the Quality Management System. Otherwise the expected results may never be achieved, thus being a problem for the organization (ISO-9001, 2015). According to ISO 9001: 2015, it establishes that the organization must agree on the necessary processes for the Quality Management System and its application throughout the organization, and must:

- a. Establish the required inputs and expected outputs of such processes.
- b. Determine both the sequence and the interaction of these processes.
- c. Determine and apply the criteria and methods necessary to ensure the effectiveness of the operation and control of these processes.
- d. Stipulate the necessary resources for these processes and ensure that they are available.
- e. Assign responsibilities and authorities for these processes.
- f. Evaluate such processes and implement the necessary changes to ensure that these processes achieve the expected results.
- g. Improve processes and the Quality Management System.

Documentation

Folgar (1998), establishes that a document is any information medium that holds certain formalities, the minimum formalities must gather an information medium to be constituted as a document are the following:

- It must be useful for doing, not doing or trying something.
- It must be recognized as a document by everyone involved.
- The information contained in it must be consistent.

Its purpose is to provide objective evidence that the processes have a systematic planning, consistent elements for their execution, controls that facilitate the obtaining of records and, finally, that there are established mechanisms to improve each process. A document consists of official statements and / or diagrams and / or other images that can be used to provide authorized information. The initial documentation can be written or stored on paper or in an electronic or computer medium, for the purpose of preserving knowledge (Lamprecht, 2003).

Process documentation

The documentation of the processes over time becomes a necessity that was adapted to the level of the organizations for its continuous improvement and thus being a requirement for its correct productive functioning. One of the main drawbacks in companies, which generates a significant decrease in their productivity, is that their members do things in different ways without following a unique and uniform methodology. Everyone appeals to their own criteria and most of the time is not the best, in situations many lack that experience. For this reason, the results, when obtained, tend to differ between pairs, similar areas or plants (Gutiérrez, 2010).

There are tools and ways to reduce the above in a significant way, one of them is the documentation of processes through which a trained person can identify the optimal method to execute a certain process, justifying the use and importance of applying the documentation of processes in projects and programs to carry out their realization (Carballo, 2012). The documentation of processes is an activity of great importance to be able to obtain standardized processes and to delimit the activities of each person in a certain time, otherwise people perform things differently without following a formal practice, generating rework, loss of time increase in costs and minimizing the efficiency of processes (Ayuso, 2008)

Having documented the processes that are carried out within an organization, is a fundamental requirement in any solid quality system since it is the one that defines its strategy. However, it is believed that the deployment (extended use of the process) and the results (benefits obtained from the execution of the process) are equally important (Vavra, 2000).

The norm ISO TR 10013 (ISO, 2001) establishes that under the international norms ISO the guidelines that facilitate the documentation of quality management systems are expressed, it guarantees to the organizations to be able to incorporate their documentation in an agile, transparent way and under any system, for the purpose of operation, maintenance, continuous improvement based on the structure to document processes.

Process documentation guides a standardized process as it is one of the best ways to organize and manage the way work activities are carried out to create value for the client and other interested parties. It is shaped as a procedure that is under the supervision of the results of quality auditors, but to achieve this result it is necessary to make a process documentation and to be a really authentic and easy-to-use tool it is necessary to take Consider the following aspects (Velasco, 2009):

Benefits of the documentation

The ISO 9004 Standard indicates that the documents are useful to support an effective and efficient operation of the organization's processes, and also contribute to satisfying the regulatory and contractual requirements of customers and stakeholders (Esponda, 2004). The main benefits obtained by companies that carry out documentation activities are (Esponda, 2004):

- All the components of the system are written down, which facilitates their dissemination and understanding.
- Communication between those involved and the controlled access of all documents is improved.
- The execution of activities is disciplined and standardized and therefore, improvisations, errors are eliminated and work is done in a more orderly manner.

- The records provide objective evidence to know the actual behavior of the processes and thus identify opportunities for improvement.
- There are elements that allow generating collective learning about failures and defaults.
- With the quality policy, the work of the employees acquires greater meaning and contributes directly to the achievement of the objectives that have been set and shared.
- Many risks are avoided due to people's memory problems, since everything is written. The documents are updated and available, and the obsolete ones are not used but the current ones.

Process map

According to Miranda (2006), the mapping of processes is a methodology that allows to guide and redefine the main elements of the process for the reinvention of the same according to what the client considers of value. For Render (2004), process mapping is a tool that has the purpose of offering an objective and structured way to analyze and record the activities that make up a process, this allows focusing attention on activities that add value.

This means that a process map is a methodology that allows to guide and define the elements of the processes that encompass a company, organizing each of these in 3 specific areas according to their function, they can be strategic, key or missionary and support.

Benefits of the process map

For the process map there are multiple benefits since it is a graphic tool that allows establishing the necessary strategies to solve the needs of the clients (internal / external). It allows highlighting the main obstacles and opportunities that may arise within and outside the company, some of these benefits are shown below (Miranda, 2006):

- Show relationships and roles.
- It provides a global vision.
- It helps explain the process.
- It allows to identify the procedures and work instructions that need to be documented.

- It helps to simplify the activities of the process, as it facilitates the identification of unnecessary complexities or repetition of tasks.
- Process standardization aid.

Process

There are many ways to define what a process is, one of the simplest responds to what Pérez (2012) establishes and affirms that it is an orderly sequence of repetitive activities whose product has intrinsic value for its user or client. According to ISO 9000 2015, it establishes that a process is the set of activities linked to each other that start from one or more inputs to transform them into outputs, thus generating results. It should be noted that organizations are generally made up of different processes to make it work and work in a continuous way.

Types of process

The processes can be classified by understanding different criteria, in practice we talk about three that are shown below (Martínez, 2013).

- Strategic processes. They constitute guides and guidelines for the Operational and Support Processes. Within this classification are the management or administrative processes of the organization. They manage the way to make decisions about planning and improvements of the company.
- Key processes. They create value and have an impact on the end customer, they are the product realization processes. They are also called operational and missionary. They manage the activities that lead to the delivery of the product to the customer, since they are those processes typical of the company's activity from which the customer will perceive and value the quality of the good or service.
- Support processes They give support or support to the key processes. Its value is indirect and generally its customers are internal. They provide necessary resources so that key processes can be carried out

Methodology to be developed

To carry out this process documentation project, seven steps were established, which were adapted from the methodology proposed by Alexander (2005), which are described below.

Develop process map

For the realization of this step it was necessary to identify the processes that the organization has, carrying out a meeting with the Director of the plant, organizing the processes in 3 sections, identifying if they were strategic, key or support processes.

For this, a list of processes which belong to the organization under study was prepared, and for its structuring, examples of process maps were taken into account and where these processes are located, likewise the processes granted by the organization were positioned.

Determine the processes to document

To carry out this step, it was necessary to convene a meeting with the director of the organization, the process map was presented and the processes with the greatest need to be documented were determined, the stages containing each one were defined by an approach of processes of its activities and resources, this in order to guide a achievement in the processes to be documented, which were presented in a list.

Determine current practice

To know this, it was necessary to take a tour of the specified areas and attend pre-established appointments with the main managers of the areas, observe the activities that are carried out in each process. In this step, the interviews were recorded to facilitate the collection of the information and with this, notice the way in which their daily activities are carried out, for their development, a questionnaire was designed where the maintenance area managers were interviewed and marketing, with this information then make a cross-function diagram.

Define the format

For the definition of the format for documenting, formats already elaborated in different internet sites, books and approved works were searched and compared to each other for the creation of their own, each format requires a specific registration number for this purpose the Guide was used to ISO TR 10013 document coding. After its completion, a board of directors was held for validation.

Prepare draft processes

This step was carried out by means of the total analysis of each process, documenting each one of the activities that are carried out in the processes detecting areas of opportunity and those involved, the document format for documenting processes was filled out and a list of the steps, also cross-function diagrams were developed for each process and were designed in igrafx version 2013.

Validate processes department managers

To obtain the approval of the final documentation, the results of the documentation must be delivered to the department managers. So that in this way they are reviewed and approved to receive authorization for delivery. In the event that managers indicate any correction, the documents will be analyzed again, and the pertinent corrections will be applied for a better understanding and application of the same, the corrections will be shown in a table.

Prepare corrections and deliver validated processes

In this step we proceeded to review the comments made to each of the documented processes, then make the pertinent corrections to the documents and also authorize the delivery of the documents for the proposed implementation. Delivery implies delivering a printed document to each head of the area with its specific process, as well as delivering a copy of both processes to the company's director.

Results

The following describes the results that were obtained when documenting the maintenance, commercialization and financing processes, and that were generated during the present investigation.

Elaboration of the process map

With respect to the meeting with the plant director, a list was obtained with the processes that make up the organization, carrying out a process map. (See figure 1).

Figure 1 Organization process map

For the classification of the processes that make up the company, different process maps were taken and according to those that were in each of the areas (strategic, key and support), they were positioned based on their type. It is observed that in the strategic processes they are made up of four in total, customer service, decision making, strategic planning and market research; In relation to those classified as key, nine are located in which they are: Financing, quality control, commercialization, storage and conservation, purchases, transport, drying, screening and delivery; and finally in the support shows the process of accounting, human resources and maintenance.

Determine the processes to document

Based on the information obtained in the review of the processes of the organization under study established in the process map, an agreement was reached in the working meeting with the Director that two key processes and one of support or support would be documented, due They are critical processes that impact the company's mission.

A list was generated in which the processes to be documented were established, which can be seen in Table 1 below..

Type of processes	Process
Key	Commercialization Financing
Support for	Maintenance

Table 1 List of processes to document

The previous Table shows that the choice was according to the needs of the organization, all areas were taken into account since all the processes lack their documentation, two key processes were selected: commercialization and financing, and one of support: maintenance, since they were the processes with the greatest need.

Determine current practice

A tour of the entire plant was made in order to know how the company works and what its areas are, with this it was determined what is the current practice of the selected processes applying the established interview format and thus developing a cross-function diagram (Flowchart), thus clearly defining the activities that correspond to each process and having an established order. The result of this step is contemplated in section VI of the format document to document each process, which is called FLOWCHART.

Define the format

To carry out this step, we searched for examples of formats to document processes on different websites, books, theses and ISO TR 10013. Subsequently, a comparison of the elements presented in each document was made and a proposal was prepared. of format for the company under study, which was presented at a working meeting with the Director of the company and the owners of the processes for validation and approval.

The format for documenting processes was carried out based on the requirements of the organization, the following Figure shows the points to be evaluated and the sections thereof (See Figure 2).

Logo de la empresa	Nombre de la empresa	Código: Versión: 1 Fecha: 30/04/2019
	Nombre del proceso	Página: 1 de

I. OBJETIVO

II. ALCANCE

III. EXTENSIÓN Y LIMITES

IV. DEFINICIONES

V. DESCRIPCIÓN DE ACTIVIDADES

Nombre de la actividad	Descripción de la actividad	Responsable

VI. ANEXOS:

VI.I FLUJORAMA

VI.II POLÍTICAS

VI.III RECURSOS PARA LA REALIZACIÓN DEL PRODUCTO

Recurso humano

Materiales

Infraestructura

Equipo de seguridad

VI.IV REGISTROS

No	Codificación	Nombre del documento	Almacenamiento	Protección	Recuperación	Tiempo de retención
1						
2						

ELABORADO POR:	REVISADO POR:	AFROBADO POR:
Maria Paula Higuera Chávez		
Fecha:	Fecha:	Fecha:

Figure 2 Format for documenting processes

The previous Figure shows that six sections were established in which the processes are described in detail. In the first one it is shown that the general objective of the process under study is established, in the second one the scope is analyzed and in the third the extension and limits thereof, in the number the necessary definitions are presented so that any person who does not know the vocabulary established in the area, be guided from there to understand it. Section five establishes the description of the activities, the name of the activity and who is responsible for it and finally in point six are the annexes, which include the flowchart, process policies, resources for carrying out of the product and records. These were established as the necessary points to describe in detail the selected processes.

Drafting processes

The documentation of three specific processes was prepared, according to the level of requirement of the organization, the areas and types of processes were taken into account, given that the key processes obtained greater relevance:

- Commercialization
- Financing
- Maintenance

With the determination of the current practice of the maintenance process, deficiencies were found and a lack of documentation for the records of some of the activities, given that a series of proposed machine / equipment records and work plan was established. For the financing process, the reduction of re-work was proposed using only one person in charge in this area, standardizing their activities. And for the commercialization process all data and records were captured, thus proposing a standardized process.

Process validation by department manager

The feedback of the 3 proposed processes was obtained by those in charge of each documented process, where the sequence of activities was verified. The observations and comments were recorded in a format in which the name of the process and the corresponding comment were indicated (See Table 2).

Process	Observation
Maintenance	<ul style="list-style-type: none">Add "Predictive Maintenance" to the definitions.Add the predictive maintenance question to activity 4.
Financing	<ul style="list-style-type: none">Modify the objective.Change of names of those responsible for the activities, in activity 1 it is the promotion area, in 2 it is a credit assistant, in 10 it is the paraffinance area, in 11 it is the parafinancial manager, in 19 it is agricultural insurance and at 21 he is again the paraffinance manager.
Commercialization	<ul style="list-style-type: none">Add attachmentsChange responsible names.Confidential annexes.Modify the documentation name.

Table 2 Process Feedback

Correct and deliver validated processes

Based on the review of the observations granted by the heads of the processes, the proposed corrections were made to each of them, and then handed them over to management and that it made delivery address. The following is a list of the 3 documented processes obtained (see Table 3) and their documentation (see Figure 3):

Process	Name	Key
1	Maintenance	MT-PD-01-00
2	Financing	FN-PD-01-00
3	Commercialization	CM-PD-01-00

Table 3 List of the 3 processes and their keys

Logo de la empresa	Nombre de la empresa	Código: MT-PD-01-00 Fecha: 20/05/2019
	Proceso de mantenimiento	Página: 1 de 9

I. OBJETIVO

Mantener la infraestructura, máquinas y equipo, con las condiciones óptimas para lograr la conformidad con los requisitos de la organización.

II. ALCANCE

Este proceso es aplicable para cubrir el servicio de mantenimiento de la Infraestructura y equipo de ALINSUMOS S.A. de C.V. abarca el mantenimiento de todas las áreas físicas de las instalaciones y la restauración de todos los muebles y equipos de propiedad de la organización.

III. EXTENSIÓN Y LÍMITES

Límites del procedimiento: Inicia.- En el momento en que se elabora la programación anual de mantenimiento preventivo y predictivo . Termina.- Cuando se concluye con la reparación y mantenimiento preventivo de los bienes o cuando se da de baja algún bien por obsoleto.

IV. DEFINICIONES

Mantenimiento:

conjunto de actividades realizadas a un equipo o instalación para que éstos sean conservados o restaurados y tienen como fin incrementar su tiempo de vida útil, además de asegurar su correcta operación, funcionalidad y eficiencia energética.

Mantenimiento predictivo:

técnica para pronosticar el punto futuro de falla de un componente de una máquina, de tal forma que dicho componente pueda reemplazarse, con base en un plan, justo antes de que falle. Así, el tiempo muerto del equipo se minimiza y el tiempo de vida del componente se maximiza.

Mantenimiento preventivo:

conjunto de actividades de mantenimiento realizadas a un equipo o instalación con el fin de prevenir, detectar y corregir fallas, evitando así descomposturas o daños mayores tomando en cuenta las recomendaciones del fabricante y la experiencia del personal responsable: rehúso de los residuos sólidos, sean tratados previamente o no.

Mantenimiento correctivo:

conjunto de actividades que consisten en el reacondicionamiento o sustitución de partes en un equipo o instalación una vez que han fallado, es la reparación de la falla (falla funcional), ocurre de urgencia o emergencia.

Plana de mantenimiento:

conjunto de tareas preventivas a realizar en una instalación con el fin de cumplir unos objetivos de disponibilidad, de fiabilidad, de coste y con el objetivo final de aumentar al máximo posible la vida útil de la instalación.

Figure 3 Documented Maintenance Process

Conclusions

In the course of this investigation the conclusion of the great importance of the documentation of the processes in an organization was reached, since thanks to them it is possible to obtain great objectives such as: the standardization of the activities of the process, staff training, add value and knowledge to the organization.

These documents are part of a means of support for the effective and efficient operations of the processes, which in turn is part of the achievement of the satisfaction of the needs of the client and interested parties.

This project met the objective of documenting the marketing, maintenance and financing processes of an agribusiness company dedicated to the sale of grains, to standardize the activities carried out in them.

It is considered that the maintenance process has a complex standardization since this process covers the needs of the organization as a whole, is found from the facilities of the entire plant, to the machines used in the different processes, even though the activities were considered general of this process thus carrying out proposals for changes in record formats facilitating the process, this carries out the acceptance and approval of the document by the head of maintenance.

In the financing process it has a logical standardization since if the same process is not followed, it reaches rework, and for someone outside the process to achieve optimal training.

And finally, for the commercialization process, improvements were made according to the guidelines followed by ASERCA, annexes were organized and improvements to the process were proposed to make it more efficient.

In the development of the project there were limitations such as the flow of information, given this causes the documentation to be more delayed and complex. Despite this, the three processes were documented.

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